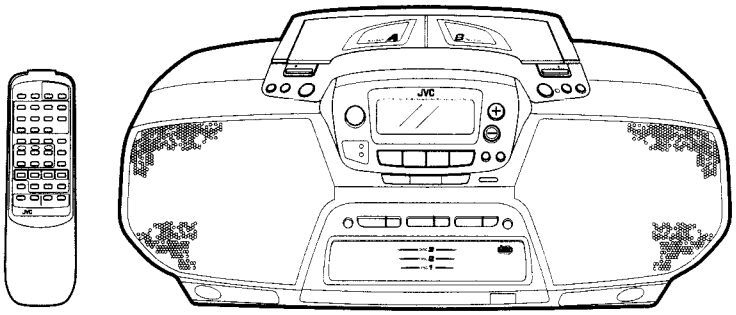
JVC

SERVICE MANUAL

CD PORTABLE SYSTEM

RC-QC7 B/E/EN/G



COMPACT disc DIGITAL AUDIO

Area Suffix	
B	U.K
E	Continental Europe
EN	Nordic Countries
G	Germany

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No.10036
May 1997

1.Safety Precautions

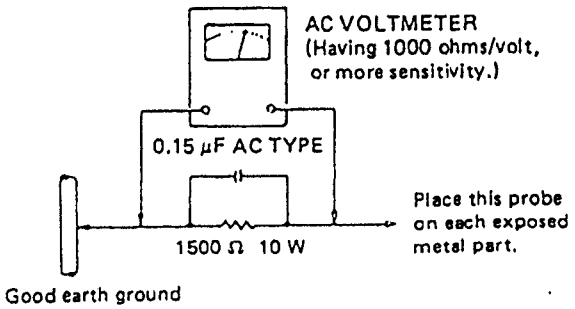
1. The design this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacture's warranty and will further relieve the manufacture of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the product have special safety－related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of service manual. Electrical components having such features are identified by (⚠)on the schematic diagram and parts list in the service manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list of service manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps , tubings, barriers and the like to be separated from live parts, high temperature parts, mpving parts and or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after reassembling.
5. Leakage current check (Electrical shock hazard testing)

   After re－assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock. Do not use a line isolation transformer during this check.

   • Plug the AC line cord directly into the AC outlet. using a"Leakage current tester", measure the leakage current from each exposed metal part of the cabinet, particulary any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exposeed 0.5mA AC(r.m.s.)

   • Alternate check method

   Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500 ohms 10W resistor paralleled by a 0.15 μ F AC type capacitor between an exposed metal part and a known good earth ground. Measure the AC voltage across the resistor with the AC voltmeter. Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured



Warning

1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintaintaind.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.

⚠ **CAUTION**

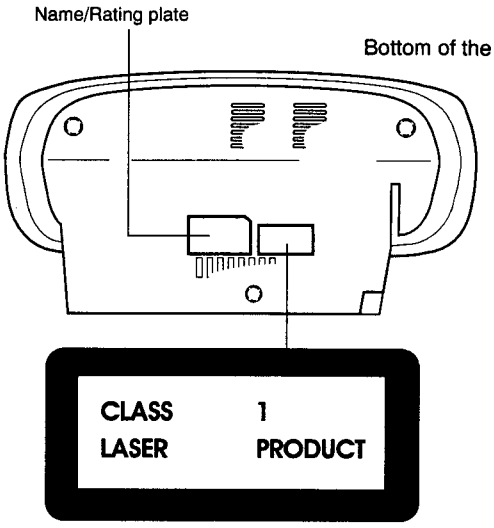
Burrs formed during molding may be left over on some parts of the chassis. Therefore, pay attention to such burrs in the case of preforming repair of this system.

2.Safety Precaution about RC-QC7

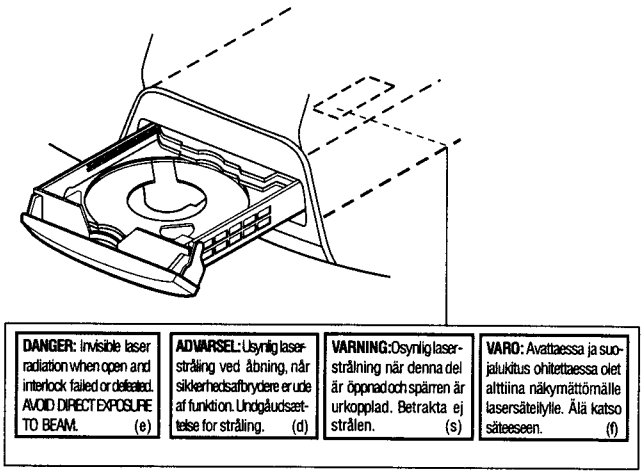
IMPORTANT FOR LASER PRODUCTS PRECAUTIONS

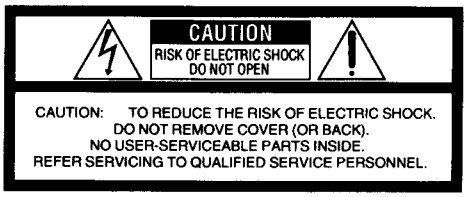
1. CLASS 1 LASER PRODUCT
2. **DANGER:** Invisible laser radiation when open and interlock failed or defeated. Avoid direct exposure to beam.
3. **CAUTION:** Do not open the rear cover. There are no user serviceable parts inside the unit; leave all servicing to qualified service personnel.
4. **CAUTION:** The compact disc player uses invisible laser radiation and is equipped with safety switches which prevent the emission of radiation when the CD holder is open. It is dangerous to defeat the safety switches.
5. **CAUTION:** Use of controls for adjustments and the performance of procedures other than those specified herein may result in exposure to hazardous radiation.
6. **CAUTION:** The laser is able to function, if safety switches out of function. The laser light is invisible, avoid exposure, do not disassemble the laser unit, but replace the complete unit.

REPRODUCTION OF LABELS AND THEIR LOCATION



Caution:
This production contains a laser component of higher laser class than Class 1.


DANGER: Invisible laser radiation when open and interlock failed or defeated. AVOID DIRECT EXPOSURE TO BEAM. (e)
ADVARSEL: Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgåudsættelse for stråling. (d)
VARNING: Osynlig laserstrålning när denna del är öppnad och spärren är urkopplad. Betrakta ej strålen. (s)
VARO: Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen. (f)


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK.
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

■ Inportant management points regarding safety(Item demanding special safety precautions)

1. Power transformer marking : VTP57J2-12B
   The torque of the screw driver for the power transformor must be controlled.
2. Concerning the AC socket, the next marking must be confirmed and to avoid print circuit board pattern damage.
   The AC socket must not float from print circuit board.
   •Marking ····· HSC – 1466
3. Concerning the primary terminal and the adjacent secondary terminal on the print circuit board to provide proper creeping and spatial distance, solder must not protrude from soldering round.
4. Before installation confirm the fuse capacity indication, "Ⓢ"or "Ⓢ"marks on the fuse holder.

REF.NO	Capacity and mark	Indication on P.C.board
F1902	T2.5A	T2.5A/250V
F1903	T2.5A	T2.5A

5. The speaker wire adjacent to live parts must be tied tightly near solder terminal.
6. Following parts are controlled as the heated parts. Confirm that the flammable parts are lifted up ,the parts in ( ) must be control.
   • IC : (IC601), Transistor : (Q3361) •Resistor : R5311, R310, R311, • Diode: D1901, D1902, D1903, D1904
   • Power Transformer
7. Confirm following EMC (Electromagnetic Compatibillty)control matter.
   Control parts , and Control work (Symbol number)
   C1901, C1902, C1903, C1904 (QFV71HJ – 683ZN, QFV71HJ – 683Z)
8. Wires must be clamped or secured at the locations shown in the figure so that the wire do not touch to live parts, moving part , hot part, or sharp edges.

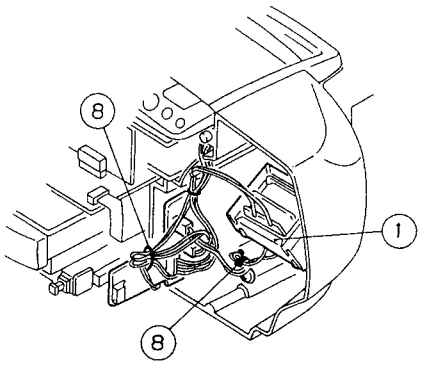


Fig.2-1

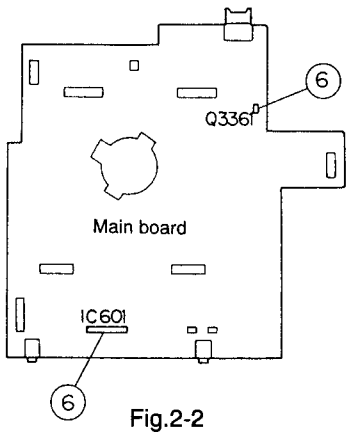


Fig.2-2

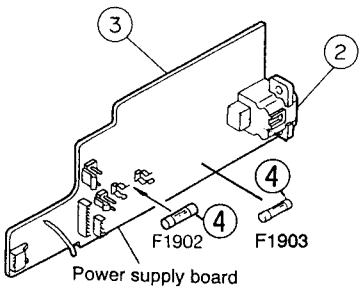


Fig.2-3

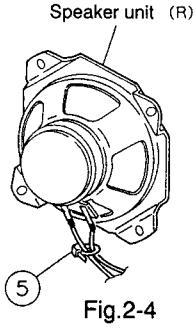


Fig.2-4

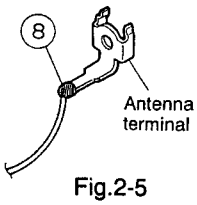


Fig.2-5

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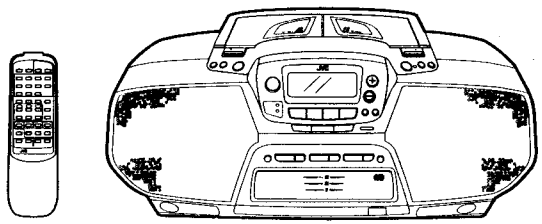
RC-QC7B CD PORTABLE SYSTEM

CD PORTABLE SYSTEM

RC-QC7 B



COMPACT disc DIGITAL AUDIO

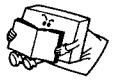
INSTRUCTIONS

3.Instructions

RC-QC7 B/EN/G

ENGLISH

Thank you for purchasing this JVC product. Please read these instructions carefully before starting operation to be sure to obtain optimum performance and a longer service life from the unit.



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WARNING:
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION
RISK OF ELECTRIC SHOCK DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

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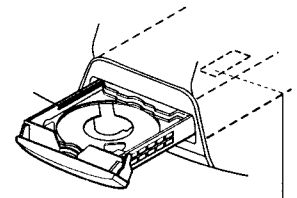

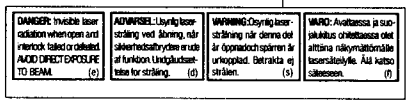
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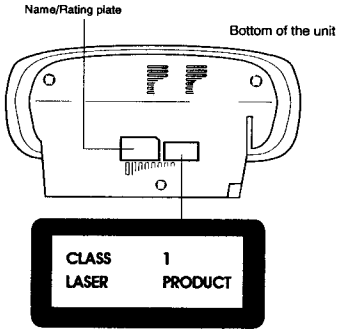


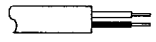
Caution:
This production contains a laser component of higher laser class than Class 1.

IMPORTANT (In the United Kingdom)
Mains Supply (AC 230 V~, 50 Hz only)

DO NOT cut off the mains plug from this equipment. If the plug fitted is not suitable for the power points in your home or the cable is too short to reach a power point, then obtain an appropriate safety approved extension lead or consult your dealer.
BE SURE to replace the fuse only with an identical approved type, as originally fitted, and to replace the fuse cover.
If nonetheless the mains plug is cut off ensure to remove the fuse and dispose of the plug immediately, to avoid a possible shock hazard by inadvertent connection to the mains supply.

IMPORTANT

DO NOT make any connection to the terminal which is marked with the letter E or by the safety earth symbol or coloured green or green-and-yellow.
The wires in the mains lead on this product are coloured in accordance with the following code:



As these colours may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:

The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.

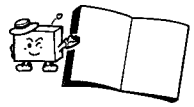
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

IF IN DOUBT – CONSULT A COMPETENT ELECTRICIAN.

FEATURES

- Multi-function 3-CD changer
- Active Hyper-Bass PRO circuit for low-frequency sound reproduction
- Sound mode control
- One-touch operation (COMPU PLAY)
- 39-key remote control unit operates all CD, cassette deck and tuner functions
- Direct Disc Select/Skip Play/Search Play/Continuous Play/Repeat Play/Random Play
- Programmed play of up to 20 tracks
- Full-logic double cassette auto-reverse mechanism (Deck B for recording and playback, Deck A for playback)
- Auto tape select mechanism
- Metal (type IV) and CrO_2 (type II) tape can be played back for superior tone quality
- CrO_2 (type II) tape recording capability
- Continuous playback (between Deck A and Deck B)
- Synchro-start dubbing function (normal/high-speed dubbing)
- 2-Band digital synthesizer tuner with 30-station (15 FM and 15 AM) preset capability
- Seek/manual tuning
- Auto preset tuning
- Timer/Clock function
- Timer on/off with preset volume function
- Sleep timer can be set for up to 120 minutes

SAFETY PRECAUTIONS



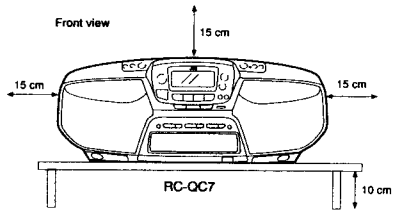
Prevention of Electric Shocks, Fire Hazards and Damage

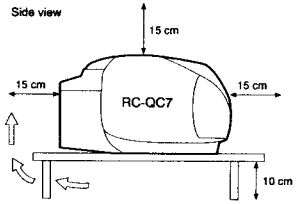
1. Even when the ⏻/I button is set to STANDBY, a very small current will flow. To save power and for safety when not using the unit for an extended period of time, disconnect the power cord from the household AC outlet.
2. Do not handle the power cord with wet hands.
3. When unplugging from the wall outlet, always grasp and pull the plug, not the power cord.
4. Consult your nearest dealer when damage, disconnection, or contact failure affects the cord.
5. Do not bend the cord severely, or pull or twist it.
6. Do not modify the power cord in any manner.
7. To avoid accidents, do not remove screws to disassemble the unit and do not touch anything inside the unit.
8. Do not insert any metallic objects into the unit.
9. Unplug the power cord when there is a possibility of lightning.
10. If water gets inside the unit, unplug the power cord from the outlet and consult your dealer.
11. Do not block the unit's ventilation holes that allow heat to escape. Do not install the unit in a badly ventilated place.
12. Since this unit uses a motor-driven CD holder or CD tray, make sure that your hand or other object does not obstruct holder or tray movement.

⏻/I button
When the power cord is connected to a household AC outlet, the power indicator lights in red indicating the STANDBY mode (this red indicator does not light when the power is supplied by batteries). When the ⏻/I button is pressed, the green indicator lights showing that power is ON (this green indicator lights whether the power is supplied through the AC or by batteries).

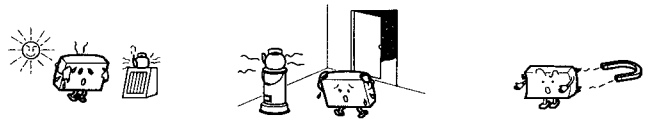
When this unit is plugged into an AC outlet, it consumes a small current to operate the remote control and timer, or to back up the memory of the microprocessor, even when the ⏻/I button is set to STANDBY.

Caution:
Proper Ventilation
To avoid risk of electric shock and fire, and to prevent damage, locate the apparatus as follows:
1. Front:
   No obstructions and open spacing.
2. Sides/Top/Back:
   No obstructions should be placed in the areas shown by the dimensions below.
3. Bottom:
   Place on a level surface. Maintain an adequate air path for ventilation by placing on a table with a height of 10 cm or more.





HANDLING PRECAUTIONS



Do not use this unit in direct sunlight where it would be exposed to high temperatures above 40°C (104°F).

- **When abnormal operation occurs.**
  * Unplug the AC power cord from the AC outlet and remove all the batteries. Then reload the batteries after a few minutes, reconnect the AC power cord and switch the ⏻/I ON.

1. **Avoid installing in the following places**
   - Where it could be subject to vibrations.
   - Where it is excessively humid, such as in a bathroom.
   - Where it could be magnetized by a magnet or speaker.
2. **Pay attention to dust**
   Be sure to close the CD holder or CD tray so that dust does not collect on the lens.
3. **Condensation**
   In the following cases, condensation may occur in the unit, in which case the unit may not operate correctly.
   - In a room where a heater has just been switched on.
   - In a place where there is smoke or high humidity.
   - When the unit is moved directly from a cold to a warm room.

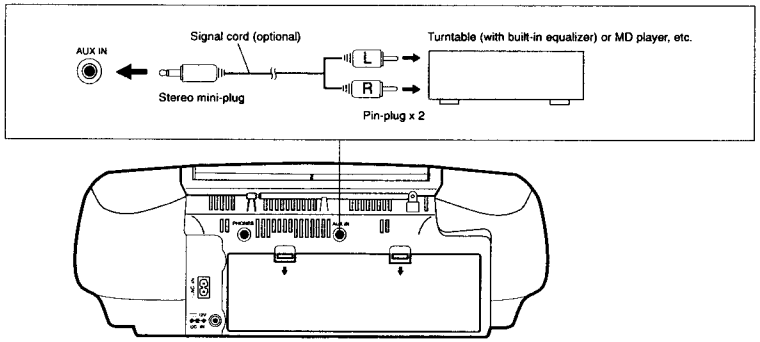
   In these cases, set the ⏻/I button to STANDBY and wait 1 or 2 hours before use.
4. **Volume setting**
   CDs produce very little noise compared with analog sources. If the volume level is adjusted for these sources, the speakers may be damaged by the sudden increase of output level. Therefore, lower the volume before operation and adjust it as required during play.
5. **Do not place cassette tapes, etc. near the speakers**
   Since there are magnets in the speakers, do not place tapes or magnetic cards on them as recorded data could be erased.
6. **Keep this unit away from your TV**
   When this unit is used near a TV, the TV picture could be distorted. If this happens, move this unit away from the TV. If this does not correct the situation, avoid using this unit when the TV is turned on.
7. **Cleaning the cabinet**
   If the cabinet gets dirty, wipe it with a soft, dry cloth. Never use benzine or thinner as these could damage the surface finish.
8. **When listening with headphones**
   - Do not listen at high volumes as this could damage your hearing.
   - For safety, do not drive while listening to this unit.
9. **Pay attention to the following**
   - Do not place the unit on an inclination.
   - Do not apply shock to the unit.
   - Press the CD tray open/close (⏏) button to close the CD tray. (Do not close it by hand.)
   - It is recommended to remove CDs from the CD tray when you transport the unit.

CONNECTIONS

- Do not switch the power on until all connections are completed.

Connection of external audio units

- **Connection with a turntable or MD player, etc.**



POWER SUPPLY

A. Operation on house hold AC

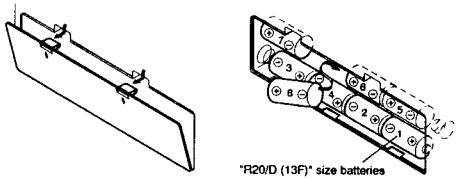
- Connect the AC power cord after all other connections have been made.

CAUTIONS:
1. **ONLY USE WITH JVC POWER CORD PROVIDED WITH THIS UNIT TO AVOID MALFUNCTION OR DAMAGE TO THE UNIT.**
2. **BE SURE TO UNPLUG THE POWER CORD FROM THE OUTLET WHEN GOING OUT OR WHEN THE UNIT IS NOT IN USE FOR AN EXTENDED PERIOD OF TIME.**

B. Operation on batteries

- **Loading batteries**

1. Open the battery cover by pulling it toward you while pressing the sections marked by the arrows.
2. Insert 8 "R20/D (13F)" size batteries as shown in the diagram.
   * Be careful to insert the batteries with the ⊕ and ⊖ terminals positioned correctly.
3. Replace the cover.



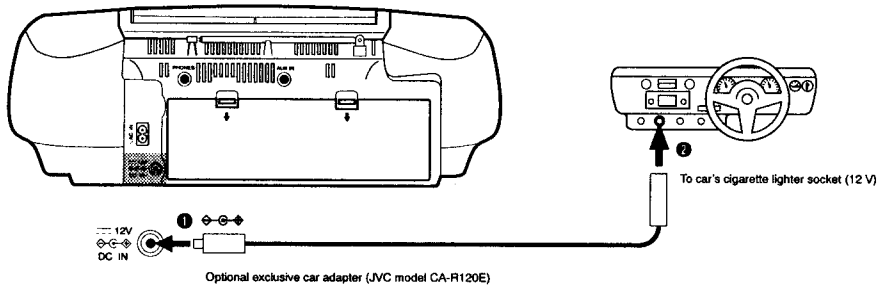
Battery replacement
When the batteries are nearly exhausted, every time the unit is used, the power will be turned off after about 1 minute.
When making an important recording, use new batteries (preferably alkaline batteries with a longer service life) to avoid any possible failure.
- **For better battery usage**
  Continuous operation of the unit causes the battery power to be consumed quicker than noncontinuous operation.
  Operation of the unit in a cold place causes the battery power to be consumed more quickly than in a warm place.
- For power supply, the use of household AC is recommended, when continuous operation of the unit is required over a longer period of time.

CAUTIONS:
- **WHEN NOT USING THE UNIT FOR A LONG TIME (MORE THAN TWO WEEKS) OR WHEN ALWAYS USING HOUSEHOLD AC, REMOVE THE BATTERIES TO AVOID A MALFUNCTION OR DAMAGE TO THE UNIT.**
- **WHEN THE JVC POWER CORD PROVIDED WITH THIS UNIT IS CONNECTED, THE POWER IS AUTOMATICALLY SWITCHED FROM THE BATTERIES TO THE HOUSEHOLD AC EVEN WHEN THE BATTERIES ARE LOADED. HOWEVER, REMOVE THE BATTERIES WHEN USING THE POWER CORD.**

CAUTIONS WHEN USING BATTERIES
When batteries are used incorrectly, it may result in the leakage of chemicals from the batteries or they may explode. The following care should be taken:
- Check that the positive ⊕ and negative ⊖ terminals of the batteries are positioned correctly and load them as shown in the diagram.
- Do not mix new and old batteries together, or mix different types of batteries.
- Do not try to recharge non-rechargeable batteries.
- Remove the batteries when the unit is not to be used for an extended period of time.

If chemicals from the batteries come in contact with your skin, wash them off immediately with water. If chemicals leak onto the unit, clean the unit completely.

C. Operation on car battery (DC 12 V)



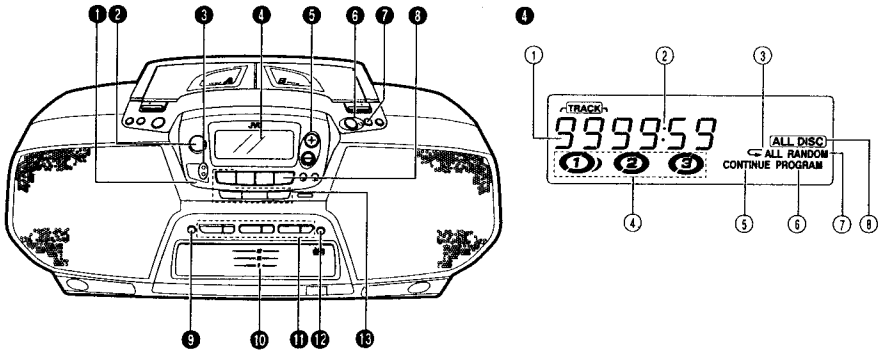
Optional exclusive car adapter (JVC model CA-R120E)

- First connect the car adapter to the DC IN 12 V jack, not the cigarette lighter socket, because shorting of a plug on the car may cause the fuse to blow out. In addition, be careful not to make a short-circuit between the plugs.
- **When using a car battery, be sure to use the specified car adapter (JVC model CA-R120E) to prevent mishaps or damage resulting from different polarity design.**

Note:
- When there is a power failure lasting more than 2 minutes or the AC power cord is disconnected for more than 2 minutes, the timer/clock setting is erased from memory. Reset the clock when the power supply is restored.

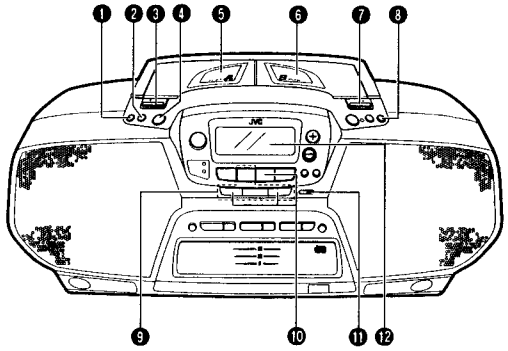
NAMES OF PARTS AND THEIR FUNCTIONS

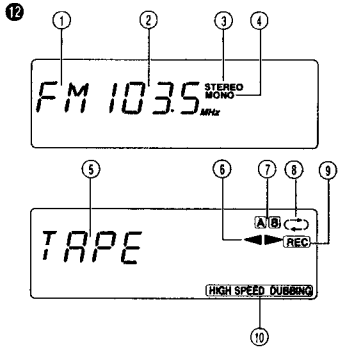
CD changer/General section



❶ Remote sensor section
❷ STANDBY/ON (⏻/I) button
❸ STANDBY/ON indicators
❹ Display window
  ① Function/Track number display
  ② Play time display
  ③ Repeat play indicator (⇐ ALL)
  ④ CD number indicators (Disc 1 – Disc 3)
  ⑤ CONTINUE play indicator
  ⑥ Program mode indicator (PROGRAM)
  ⑦ RANDOM play indicator
  ⑧ ALL DISC indicator
❺ VOLUME buttons (+, -)
❻ ACTIVE HYPER-BASS PRO button and indicator
❼ SOUND button
❽ AUX button
❾ CONTINUE play button
❿ CD tray (Load the CD onto the subtray by opening here.)
⓫ DISC CONTROL buttons (Disc 1 – Disc 3)
  CD tray (▲) open/close buttons (Disc 1 – Disc 3)
⓬ ALL CD EJECT button
⓭ CD operation buttons
  CD play/pause button (▷/II):
    Press to play a CD or to stop temporarily.
  CD search buttons (⏮, ⏭):
    Press to locate the beginning of a track and to start forward/reverse search operations.
  Stop/clear button (■):
    Press to stop playing a CD or cancel programmed play.

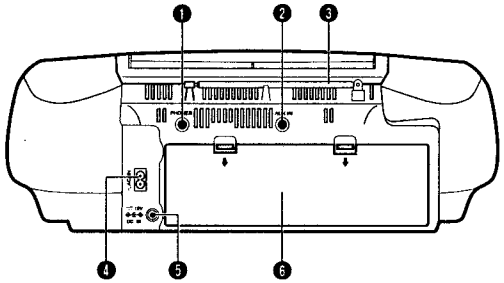
Tuner/Deck section





❶ REVERSE MODE button
❷ DUBBING SPEED (NORMAL/HIGH) button
  BEAT CUT button
❸ EJECT (▲) button (Deck A)
❹ DECK A/B select button
❺ Cassette holder (Deck A)
❻ Cassette holder (Deck B)
❼ EJECT (▲) button (Deck B)
❽ ONE TOUCH REC button
❾ Cassette operation buttons
  ⏮(REW) : Press to rewind the tape.
  ■ : Press to stop the tape.
  ⏭(FF) : Press to fast wind the tape.
  TAPE (◁▷): Press to select the TAPE mode.
  : Press to play back the tape in the forward direction. The ► indicator lights in the display window.
  : Press to play back the tape in the reverse direction. The ◄ indicator lights in the display window.
❿ TUNER/BAND button
  Press to select tuner mode.
  Press to select the band.
  Tuning buttons (⏮/⏭)
⓫ PRESET TUNING (●) button
  AUTO PRESET (▬) button (Press for more than 2 seconds.)
⓬ Display window
  ① Band indicator
  ② Radio frequency display
  ③ STEREO indicator
  ④ MONO indicator
  ⑤ Tape (TAPE) mode display
  ⑥ Tape direction indicator (◄, ►)
  ⑦ Deck (A/B) select indicator
  ⑧ Reverse mode indicator (⇄/⇄/⇄)
  ⑨ Recording indicator (REC)
  ⑩ Dubbing speed indicator

Rear panel



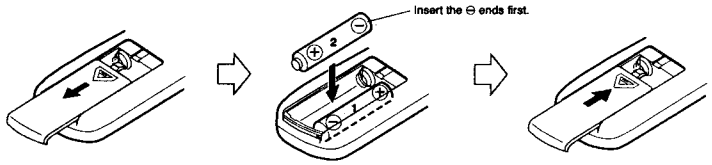
❶ Headphone jack (PHONES) (3.5 mm dia. stereo mini)
Connect headphones (impedance 16Ω to 1 kΩ) to this jack.
Speaker sound is automatically switched off when the headphones are connected.
❷ AUX IN (AUX input) jack
❸ Telescopic antenna
❹ AC IN (AC input) jack
❺ DC IN 12 V jack (⊖⊂◈)
❻ Battery compartment cover

REMOTE CONTROL UNIT

Preparation before use

• Installing batteries in the remote control unit

1. Remove the battery cover from the back of the remote control unit.
2. Insert two "R6/AA (15F)" size batteries.
   • Insert the batteries with the ⊕ and ⊖ terminals matching the indication inside the battery compartment.
3. Replace the cover.



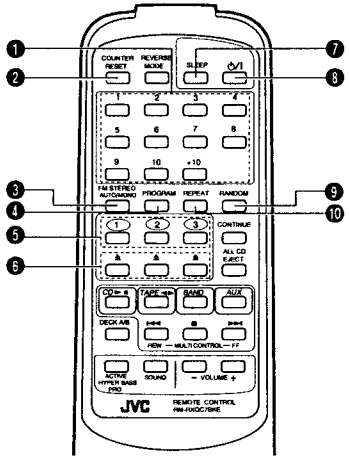
• Battery replacement
When the remote control operation becomes unstable or the distance from which remote control is possible decreases, replace the batteries.

Using the remote control unit

- Point at the remote sensor and operate within about 7 m (approx. 23 ft).
- The remote control range is less when the unit is used at an angle.
- Do not expose the remote sensor to strong direct sunlight or artificial lighting.
- Make sure that there are no obstacles between the remote sensor and the unit.

The following operations can be performed using the remote control unit.

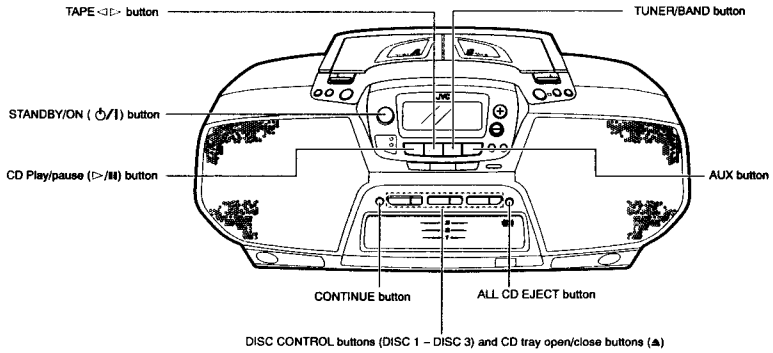
• Check the operation button functions carefully and operate them correctly.



❶ Track number buttons (No. 1 to No. 10, +10)
Preset station buttons (No. 1 to No. 10, +10)
❷ COUNTER RESET button
❸ FM STEREO AUTO/MONO button
❹ PROGRAM button
❺ DISC CONTROL buttons (① – ③)
❻ CD tray (▲) open/close buttons (Disc 1 – Disc 3)
❼ SLEEP button
❽ ⏻/I button
   • When the main unit power is supplied from batteries, this ⏻/I button cannot turn on the main unit power (In this case, switch on the ⏻/I button of the main unit first.)
❾ RANDOM button
❿ REPEAT button

• Buttons not mentioned here have the same functions as those on the main unit.

SWITCHING THE POWER ON/OFF


TAPE ◁◫▷ button
TUNER/BAND button
STANDBY/ON (⏻/I) button
CD Play/pause (▷/II) button
AUX button
CONTINUE button
ALL CD EJECT button
DISC CONTROL buttons (DISC 1 – DISC 3) and CD tray open/close buttons (▲)

Switching the power on/off

• Switching on:

The green indicator lights.

• Switching off:

The red indicator lights. (The indicator does not light when the power is supplied by batteries.)

One touch operation (COMPU PLAY) (only when AC power is used)

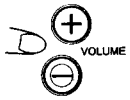
Even when the power is set to STANDBY, pressing the button shown below switches on the power and selects the source.

	Function mode	Operations
CD ▷/II DISC 1 DISC 2 DISC 3 CONTINUE	CD	When this button is pressed with a CD loaded, CD playback begins.
TAPE	TAPE	When this button is pressed with a tape loaded, tape playback begins.
TUNER BAND	TUNER	When this button is pressed, the tuner is engaged.
AUX	AUX	A sound source connected to the AUX IN terminal can be engaged.

Notes:
- When switching off the power, be sure to press the ⏻/I button.
- The COMPU PLAY function mode on the remote control has the same function as that on the main unit.

VOLUME, TONE AND OTHER CONTROLS

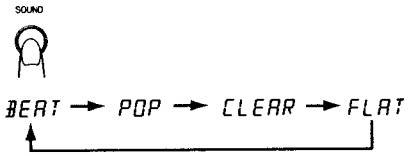
VOLUME button
+ : Use to increase the volume.
– : Use to decrease the volume.
(Control range from VOL 0 to VOL 25.)



ACTIVE HYPER-BASS PRO button
ON : The ACTIVE HYPER-BASS PRO indicator lights up. Set to this position to activate ACTIVE HYPER-BASS PRO sound.
OFF: The ACTIVE HYPER-BASS PRO indicator goes out. Set to this position when ACTIVE HYPER-BASS PRO sound is not required.

Sound mode button
Sound modes can be selected to enhance the type of music being played.

- Press the SOUND button to select the sound mode.
- Each time the SOUND button is pressed the sound mode changes as follows:



Sound mode selection
BEAT:
Set to this position for music with a heavy beat, such as rock or disco music.
POP:
Set to this position for light music including popular and vocal music.
CLEAR:
Set to this position for crisp and clear sounding music with transparent highs.
FLAT (No sound effect (flat characteristics)):
Set to this position when listening to classical music.

Note:
The selected modes only affect the sound output from the speakers or headphones. They do not affect the sound when recording.

HANDLING CDs

Since dirty, damaged and warped CDs may damage the unit, take care regarding the following:

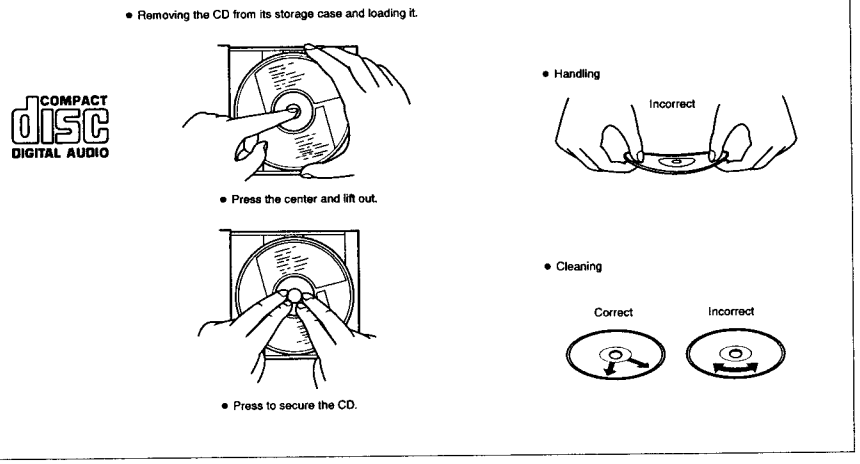
1. **Usable CDs**
   Use CDs with the mark shown.

2. **Notes on handling CDs**
   - Do not touch the reflective recorded surface.
   - Do not stick or write anything on the label side.
   - Do not bend CDs.

3. **Storage**
   - After removing a CD from the unit, be sure to put it back in its case.
   - Do not expose CDs to direct sunlight, high temperatures from a heater, etc., high humidity, or dust.

4. **Cleaning CDs**
   - Before loading a CD, wipe off any dust, dirt or fingerprints with a soft cloth. CDs should be cleaned by wiping radially from the center to the edge.

- **Never use thinner, benzine, record cleaner or antistatic spray.**

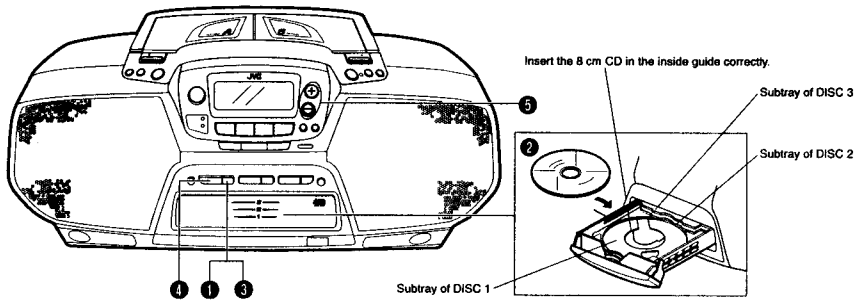


Note:
CDs shaped like a heart, flower, etc. (specially-shaped CDs) can not be used with this unit. If this type of CD is loaded, it will cause a trouble.

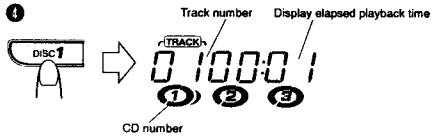
PLAYING CDs

(Example: When playing back a CD loaded in the DISC 1 tray, which contains 12 tracks and whose total playback time is 48 minutes and 57 seconds.)

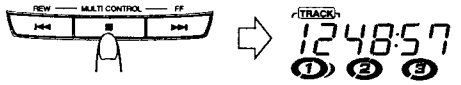
Operate in the order shown



1. Press the CD tray open/close button (⏏) (DISC 1). The CD tray opens. (The power is switched on.)
2. Load a CD with the label side facing up.
3. Press the CD tray open/close button (⏏) to close the CD tray.
4. Press the DISC 1 button to start play.
5. Adjust.



- **To stop in the middle of a CD**
  During play, press the stop/clear (■) button to stop play.



- The total number of tracks and total playback time are displayed.
- La unidad indica el número total de pistas y el tiempo total de reproducción.
- *Viene visualizzato il numero totale di brani ed il tempo totale di riproduzione.*

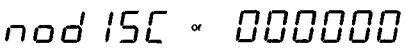
- **To stop a CD temporarily**
  Press the CD (▷/II) button to stop play temporarily and the playing time display blinks. When pressed again, play resumes from the point where it was paused.

- **When closing the CD tray**
  When the ⏏ button of another subtray is pressed, the opened subtray closes, and the selected subtray opens. It is also possible to change the CD in a different subtray while a CD is playing. When changing a CD, pick it up without touching the CD on the subtray beneath.

- **Playing Disc 2 or 3**
  Insert the CD into the DISC 2 (or DISC 3) subtray and press the DISC 2 (or DISC 3) button.
- **When loading a desired CD in the subtray currently selected in the CD number display (ex: DISC 1 ①)**
  Pressing the CD ▷/II button will start play back of the CD. If the CD is set in a subtray that is not currently selected in the CD number display, pressing the CD ▷/II button will not begin playback.
  (When changing the function or turning off the power, press the ⏏ button to confirm which trays contain CDs, then press the DISC 1-3 buttons.)

CD number display
The CD in the CD subtray for which ♪ is displayed can be played by pressing the CD ▷/II button.
If a CD is not inserted, **nodISC** is displayed and the ○ display disappears.
- If **nodISC** is displayed, the ○ display disappears, but the ○ display will only appear when the CD tray is ejected by pressing the eject ⏏ button.
- In the following situation ①②③, when the ⏏ button of DISC 3 is pressed, both subtrays of DISC 2 and DISC 3 are ejected.
- 8-cm (3") CDs can be used in this unit without an adapter.

Notes:
- The following indication may appear when a CD is dirty or scratched, or when the CD is loaded upside down.
  In such a case, check the CD and insert again after cleaning the CD or turning it over.



- **Do not use the unit at excessively high or low temperatures. The recommended temperature range is from 5°C (41°F) to 35°C (95°F).**
- After playback, unload CDs and close the CD trays.
- If mistracking occurs during play, lower the volume.
- Before transporting the unit, take the discs out of the disc trays if possible.
- Do not place anything other than a CD on the CD tray or subtray, as this may cause damage to the unit.

Skip play

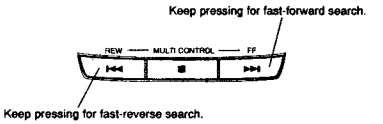
- During play, it is possible to skip forward to the beginning of the next track or back to the beginning of the track being played or the previous track; when the beginning of the required track has been located, play starts automatically.

To listen to the next track...
Press the ▶▶| button once to skip to the beginning of the next track.

To listen to the previous track...
Press the |◀◀ button to skip to the beginning of the track being played.
Press twice quickly to skip to the beginning of the previous track.

Search play (to locate the required position on the CD)

- The required position can be located using fast-forward or reverse search while playing a CD.



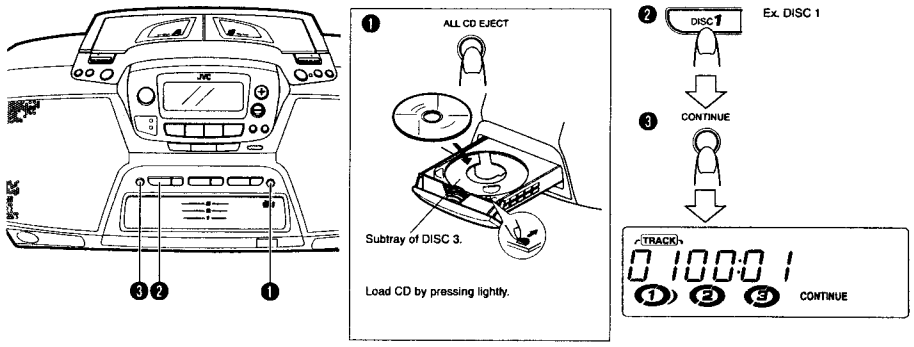
- Hold down the button; search play starts slowly and then gradually increases in speed.
- Since low-volume sound (at about one quarter of the normal level) can be heard in the search mode, monitor the sound and release the button when the required position is located.
- When the "CONTINUE" indicator is shown...
  In fast-forward mode, it is possible to skip/search through all CDs.
  In fast-reverse search mode, search stops at the first track of the CD.

Continuous play

How to play all tracks

Operate in the order shown

- When the CD are already loaded...
  Press the CONTINUE button. CONTINUE appears in the display window and continuous play starts. (When this button is pressed in power standby mode, the power is turned on and continuous play starts.)



1. Load the CD
   - The CD mode is engaged and all three subtrays open. (The subtrays are numbered DISC 1, 2, and 3, in order from the bottom.)
   - Place a CD onto the DISC 3 subtray and load it by pressing the tray lightly. Next, place a CD onto the DISC 2 subtray and load it by lightly pressing the tray. Finally, place a CD onto the DISC 1 subtray.
2. Select the button of the selected CD.
   The CD tray closes and play begins.
   (Pressing the ALL CD EJECT button also closes the CD tray.)
3. Press the CONTINUE button.

- CONTINUE appears in the display window and continuous play starts. Playback is repeated from DISC 1 through DISC 3.
- If a tray does not contain a CD, playback will skip to the next tray.

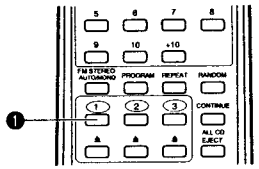
- **To end continuous play**
  Press the CONTINUE button and release it. The CONTINUE display disappears and normal play resumes.

- **When closing the subtrays**
  Do not load the DISC 1 subtray by hand, as the CD may not be placed onto the CD tray correctly. If a 12 cm CD is loaded this way, the CD tray will not close. If an 8 cm CD is inserted incorrectly, the tray will close, then eject the CD immediately. **Afterwards, the CD mode will not function. Remove the CD and turn the ⏻/I off and on again to engage the CD mode.**

Note:
- When loading or ejecting a CD, do not hit the recorded surface of the CD against the corner of the CD tray, as this may damage it.

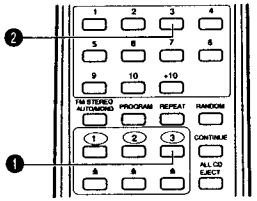
Direct access play (using the remote control unit)

Example 1: To designate Disc 1



❶ Designate the required CD using CD CONTROL button (DISC 1 to DISC 3).
- CD play starts.

Example 2: To designate the 3rd track of Disc 3



❶ Designate the required CD using the CD CONTROL buttons (DISC 1 to DISC 3).
❷ The track number is displayed and the required track number is selected using the track button.
- CD play starts.

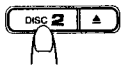
- To designate track numbers 1 to 10, press the track number button corresponding to the track number.
- To designate track number 11 or higher, press the +10 button the required number of times, then a track number button. (Example: To designate the 20th track, press the +10 button once, then press track number button 10.)

* +10 button:
Each time this button is pressed, the number increases by 10. First press this button to set the 10's digit, then press the track number button to set the 1's digit.

DISC CONTROL button

- **Direct Disc Selection**
  Press the CD CONTROL button (DISC 1 to DISC 3) corresponding to the No. of the required CD.

Example: To designate Disc 2



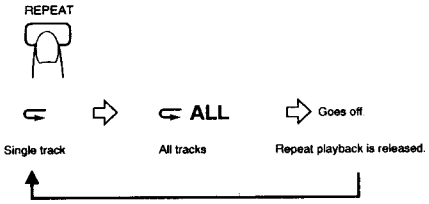
The tracks on the designated CD are played in sequence.

Note:
- When "PROGRAM" is shown in the display and the direct select operation is performed, the CD cannot be played.

Repeat play (Using the remote control unit.)

Press the REPEAT button before or during play. It is possible to perform repeat play of a single track, all tracks on one CD, or all tracks on all CDs in the CD changer.

Each time the REPEAT button is pressed, the mode will change in the order from a single track (⊆), to all tracks (⊆ ALL), to clear mode.



- **Single track repeat (⊆)**
  The current or specified track will be played repeatedly.
- **All tracks of one CD repeat (⊆ ALL)**
  All tracks on the current or specified CD will be played repeatedly.
- **All tracks of all CDs repeat (ALL DISC. CONTINUE.⊆ ALL)**
  When the CONTINUE button is pressed in the "⊆ ALL" mode, CD play starts from the current or specified track, then all tracks on all CDs will be played repeatedly.

Random play (using the remote control unit)

Press the RANDOM button before or during play. It is possible to perform random play from one or all CDs.

- **One disc random (RANDOM)**
  Press the RANDOM button to randomly play tracks on the current or specified CD, except in continuous mode.

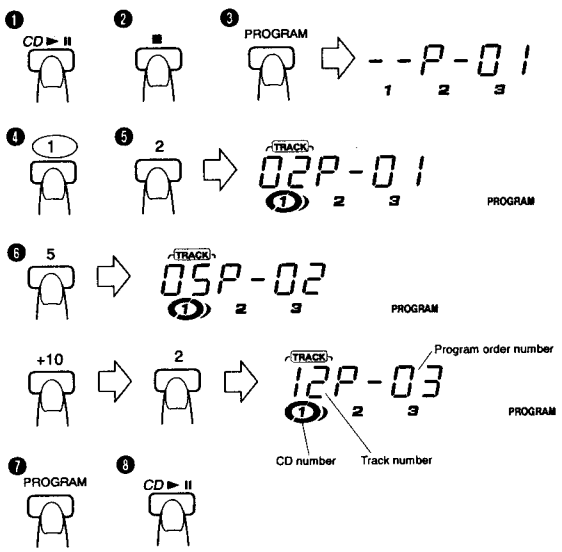
- **All disc random (ALL DISC, CONTINUE, RANDOM)**
  Press the RANDOM button in continuous play mode to randomly select and play tracks from all of the CDs in the CD changer.

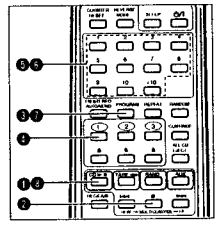
Programmed play (using the remote control unit)

- Up to 20 tracks can be programmed to be played in any required order from one CD or all CDs in the CD changer.

Example: (CD containing more than 12 tracks)

Example 1: Programming tracks from disc 1 (tracks 2, 5, and 12).

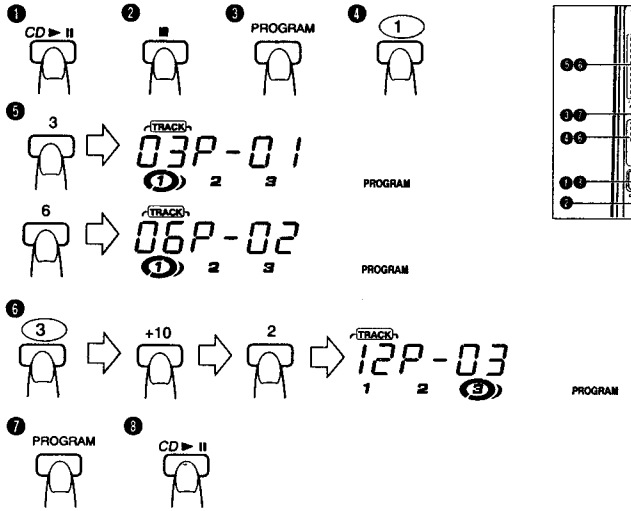


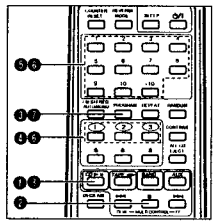


❶ Set to the CD mode.
❷ Press the ■ button.
❸ Press the PROGRAM button to set to the programming mode.
❹ Press the No. 1 CD CONTROL button.
❺ Press to designate the required track number.
❻ Designate the remaining tracks by pressing the track number buttons.
❼ Press the PROGRAM button to confirm program details.
- Repeat from step ❷ to readjust the program.
- Repeat from step ❺ to add to the program.

❽ Press the CD ►/II button when programming is completed. Programmed play starts.

• Example 2: Programming tracks from 2 or more CDs in the order of disc 1 (track 3), disc 1 (track 6), and disc 3 (track 12).





❶ Set to the CD mode.
❷ Press the ■ button.
❸ Press the PROGRAM button to set to the programming mode.
❹ Designate the required CD using the CD CONTROL buttons (No. 1 to No. 3).
❺ Designate the required track using the track number buttons (No. 1 to No. 10, and +10).
❻ Repeat steps ❹ and ❺ to designate the other tracks.
❼ Press the PROGRAM button to confirm program details.
- Repeat from step ❺ to readjust the program.
- Repeat from step ❹ to add to the program.

❽ Press the CD ►/II button when programming is completed. Programmed play starts.

- When performing CD synchro recording or timer playback in the order of "Programmed play," do not press the CD ►/II button.

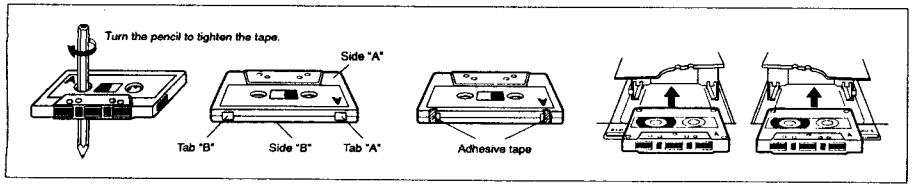
To confirm the details of a program...
Press the PROGRAM button: the tracks making up the program will be displayed in programmed order.
To clear the programmed tracks ...
Press the ■ button before playing a CD. During programmed play, press this button twice.

Notes:
- Programming is possible even when a CD tray is open. (The tracks on the CD can be confirmed as the labels are visible.)
- Programmed tracks are not cleared even if the CD tray is open.

HANDLING CASSETTE TAPES

Cassette tapes
1. Loose tape may cause trouble. Using a pencil or like object, gently tighten the tape as shown.
2. To prevent recordings from being erased accidentally, remove the tab(s) with a screwdriver, etc. Reseal the slots with adhesive tape to erase and re-record after the tabs have been removed.
3. C-120 cassettes are not recommended because they are prone to malfunction.

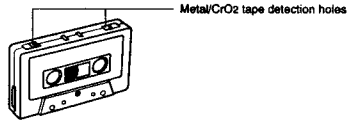
Cassette loading
1. Press the EJECT (≜) button to open the cassette holder.
2. Load a cassette as shown.
3. Close the cassette holder by pressing it gently. Listen for the click indicating that the holder is securely shut.



Note:
If the power is switched off while tape is running, it may be impossible to remove the cassette. If this happens, switch the power on again before attempting to remove the cassette.

Auto tape select mechanism
This unit has an Auto Tape Select mechanism which distinguishes between different types of tape using detection holes in the cassette. After the type of tape has been detected, bias and equalization suitable for the tape are set.

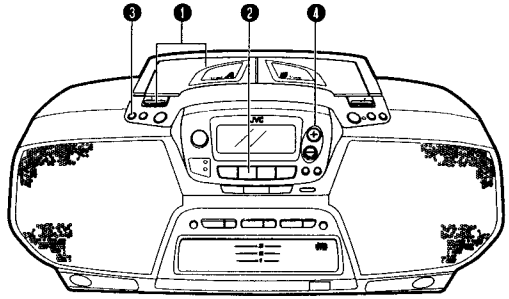
- Cassettes with detection holes:
  Metal tape (EQ: 70 μs) ..... Type IV
  CrO_2 (chrome) tape (EQ: 70 μs) ..... Type II
- Cassettes without detection holes:
  Normal tape (EQ: 120 μs) ..... Type I



CASSETTE PLAYBACK

(The example shows Deck A)
Operate in the order shown

- When AC power is used.
  (When battery power is used, switch on the ⏻/I button first, then perform operation.)



❶ Load a cassette tape with side A facing up.
❷ Press to start playback. (The power is switched on and the TAPE mode is engaged to start tape playback.)
Displays the 4-digit tape counter.
❸ Select the reverse mode (⇄/⇉/(⇉)).
❹ Adjust.

- After loading a cassette tape, simply press the TAPE ◁I▷ button. The power is switched on and the tape starts playback. (To select the playback direction, press the TAPE ◁I▷ button. The change in direction can be checked in the tape direction indicator (◄ or ►).)
- To reset the counter to "0000," press the COUNTER RESET button on the remote control unit.
- When the tape plays back with the reverse mode set to ⇉ (single side play) or ⇄ (both side play) mode, the tape stops automatically at the end of tape after playing one or both sides. When the reverse mode is set to the (⇄ (continuous play) mode, the tape continuously plays one side after the other until you stop operation.

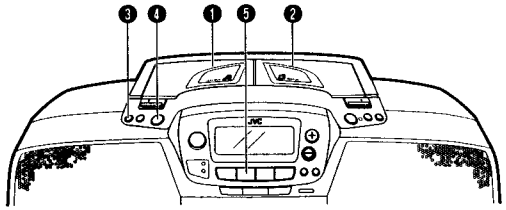
Notes:
- Do not press the ≜ EJECT button until the tape mechanism has stopped moving.
- If the cassette holder gets stuck as it is opening, press it once to close it. Turn off the power, wait a minute, and turn it on again. If the cassette holder cannot be closed, open it by hand.
- When no tape is loaded in the deck, its tape playback direction can not be switched over.

How to fast-wind tapes

1. Press the TAPE ◁I▷ button (to set TAPE mode).
2. Press the I◄◄ (REW) or ►►I (FF) button.

Continuous Playback

(Between Decks A and B)
Operate in the order shown



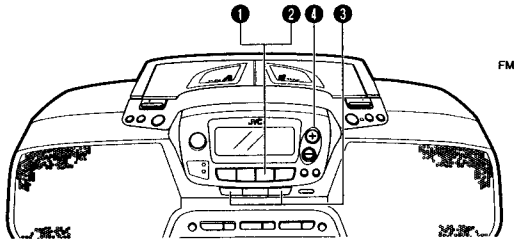
❶ Load a cassette tape in Deck A.
❷ Load a cassette tape in Deck B.
❸ Set the reverse mode to (⇄).
❹ Select either Deck A or B.
❺ Press the TAPE ◁1▷ button to start continuous play.

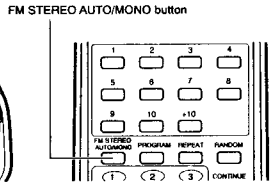
- To stop tape running, press the ■ button. When the reverse mode is set to ⇄, the tape will stop at the end of the side being played.
- The DECK A/B button does not function unless tapes are loaded in both decks.

RADIO RECEPTION

Operate in the order shown

- When AC power is used. (When battery power is used, switch on the ⏻/I button first, then perform operation.)





❶ Press the TUNER button.
- The power is switched on and a band and radio frequency will be shown in the display.

❷ Select the band.
❸ Tune to the required station.
❹ Adjust.

FM STEREO AUTO/MONO button (using the remote control unit)

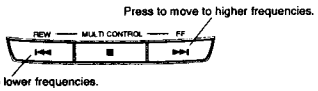
Auto mode:
Set to this position when listening to or recording an FM stereo broadcast. The STEREO indicator lights when the FM stereo broadcast is received.
MONO:
Set to this position when FM stereo reception is noisy.
When another station is tuned to in the MONO mode, the unit automatically enters Auto mode.

Seek tuning

Press the ⏮ or ⏭ button for one second or more. The unit enters the seek tuning mode to tune in the nearest station automatically, so the broadcast can be heard.

Manual tuning

Each time the ⏮ or ⏭ button is pressed, the unit steps through the current frequency band. Tuning is done in steps of 50 kHz for FM and 9 kHz for AM.



Notes:
- When seek tuning to the required station is not possible because the broadcast signal is too weak, press the ⏮ or ⏭ button momentarily to perform manual tuning.
- When the power is set to standby, or another mode (TAPE or CD) is selected, the last tuned frequency is stored in memory. When the power is switched on again and TUNER button is pressed, the same station will be tuned to.

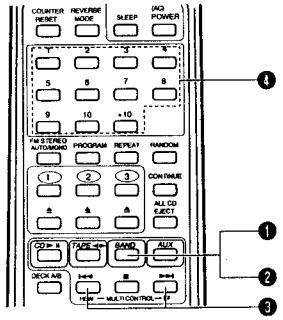
Auto preset tuning

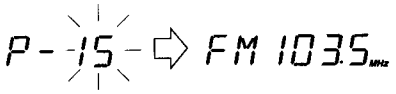
This function scans the current band, detecting frequencies used to broadcast signals, and stores the first 15 frequencies in memory automatically.
- Press the AUTO PRESET button for more than 2 seconds. The frequencies of stations broadcasting signals can be stored in memory automatically in the order of increasing frequency. (15 stations in each band.)

Press for more than 2 seconds.

Presetting the desired stations (using the remote control unit)

15 stations in each band can be preset as follows:
- Example: (Presetting an FM station broadcasting on 103.5 MHz to preset button "15")





❶ Press the BAND button.
❷ Select the FM band using the BAND button.
❸ Tune to the required station.
❹ Press preset button "+10", then "5" for more than 2 sec. (When "15" blinks in the preset station display, the station has been stored.)

- Repeat the above procedure for each of the other stations, using a different preset button each time.
- Repeat the above procedure for the other band.

- **To change preset stations**
  Perform step ❹ above after tuning to the required station.

Notes:
- The previous stored station is erased when a new station is stored, because the new station's frequency replaces the previous frequency in memory.
- When listening to an AM broadcast, noise may be heard if the remote control unit is used.

- All preset stations will be erased when the power cord is disconnected or a power failure occurs for more than 48 hours. In such cases, store the stations again.

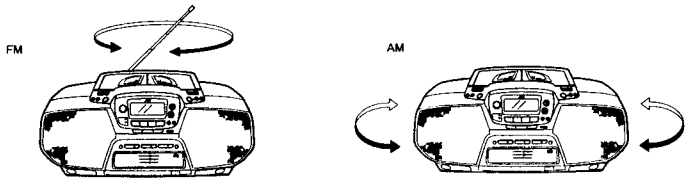
Preset station tuning (Receiving the preset stations)

- The stations must be preset before this operation can be performed.

(Using the main unit)
① Press the TUNER button.
② Select the band using the TUNER button.
③ Press the PRESET TUNING button to select the required preset station.

(Using the remote control unit)
① Press the BAND button.
② Select the band using the BAND button.
③ Press the required preset station buttons (No. 1 – No. 10 and +10).
- The preset station number and frequency corresponding to the button pressed are shown.

Using the antennas



Note:
The built-in ferrite core antenna can pick up interference from television receivers in the neighborhood and thereby disturb AM reception.

RECORDING

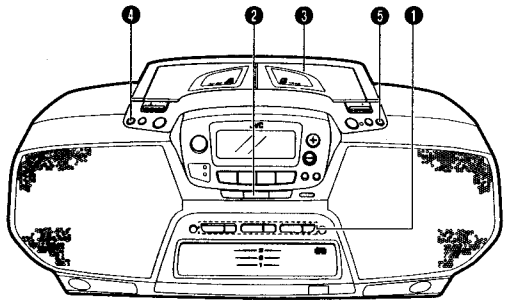
- During recording, the ALC (Automatic Level Control) circuit automatically optimizes the recording level, so manual recording level adjustment is unnecessary.
- Check that the safety tab on the cassette tape is not broken off.

Note:
This unit has recording characteristics suitable for normal and CrO_2 tapes. Normal and CrO_2 tapes have different characteristics from metal tapes.

Synchronized recording with the CD player

- In this system, the CD player starts play when the cassette deck enters the recording mode.

Operate in the order shown



❶ Press the CD CONTROL (DISC 1 to DISC 3) button corresponding to the CD to be recorded.
❷ Press the ■ button to set stop mode.
❸ Load a cassette with side A facing up in Deck B. (Wind past the tape leader before starting recording.)
❹ Select the required reverse mode (⇄ or ⇉).
- When programmed play is required, program the required tracks using the remote control. (See page 15.)
- Select tracks with a total playing time which does not exceed the tape length (refer to the liner notes).

❺ Press the ONE TOUCH REC button; synchronized recording will start. (The recording indicator lights up.)
- Recording starts in the forward direction and CD play starts automatically.

- Non-recorded sections of approx. 4 seconds are automatically left between tunes.
- When the CD player stops, the tape deck stops automatically.
- To stop recording in the middle, press the ■ button. The cassette deck also stops after 4 seconds.
- Before CD synchro recording of CD continuous play, press the CONTINUE button. (See page 13.)

Note:
- During CD synchro recording, the CD ▷/II and (I◄◄, ►►I) buttons do not function.

When non-recorded section between tunes is not required...
① Press the CD ▷/II button twice. The CD player enters the pause mode.
② Press the ONE TOUCH REC button to start recording.

Note:
- Depending on the CD used, non-recorded sections of different lengths may be left between tunes.

- **CD complete recording function (Synchro recording mode only)**
If the tape is reversed while a CD is being played, recording will be done on the reverse side of the tape as follows:
  * When less than 10 seconds of the last tune on the forward side of the tape have been recorded, recording on the other side of the tape will start from the beginning of the previous track.
  * When more than 10 seconds of the last tune on the forward side of the tape have been recorded, recording on the other side of the tape will start from the beginning of the current track.

- **To record one track**
Play the track to be recorded. Then pressing the ONE TOUCH REC button locates the beginning of track and enter the one track recording mode. After the recording is finished, the CD player and cassette deck both stop.

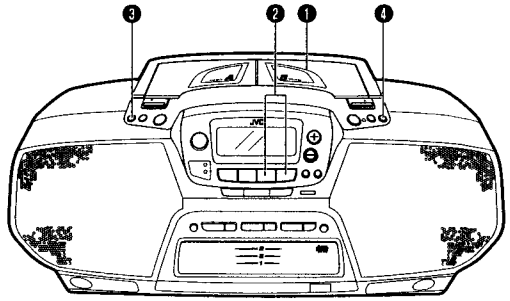
How to fast-wind tapes

1. Press the TAPE ◁▷ button (to set TAPE mode).
2. Press the I◄◄ (REW) or ►►I (FF) button.

Notes:
- When the tape finishes recording at any point on the reverse (◄) direction , it is possible to record on the same direction from that point. Without ejecting the tape, press the ONE TOUCH REC button.
- **When tape recording is completed in the reverse (◄) direction**
After the tape is ejected, the tape deck is automatically set to the forward (►) direction, making it easier to record on side A of the next tape.

Recording from the radio or an external source connected to the AUX IN terminals

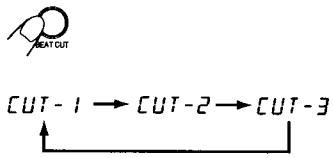
Operate in the order shown



❶ Load a cassette in Deck B with side A facing up.
(Wind past the tape leader before starting recording.)
❷ Select the source to be recorded.
TUNER: Press the TUNER button. Tune to the required station.
AUX: Press the AUX button.
❸ Select the desired reverse mode.
❹ Press the ONE TOUCH REC button.
- The recording starts from the beginning of side A.

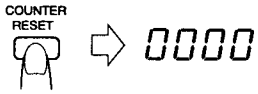
BEAT CUT button

When recording an AM broadcast, beats may be produced which are not heard when listening to the broadcast. In such case, set this button after setting the deck to the record mode so that the beats are eliminated. Normally set this button to "CUT-1".



COUNTER RESET button (using the remote control unit)

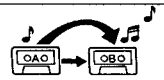
1. Before recording, press the TAPE (◄►) button to engage the TAPE mode. Then press the ■ button.
2. Press the COUNTER RESET button to reset the counter to 0000.



3. Select the desired source and start recording.

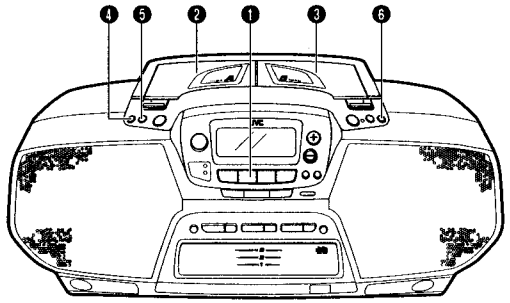
- After the recording is completed, press the TAPE (◄►) button to engage the TAPE mode. Then rewind the tape till the counter shows "0000" and play it back. Make a note of the counter number of the beginning of the song recorded.

TAPE DUBBING (SYNCHRO START DUBBING)



Normal and high-speed dubbing from Deck A to Deck B can be performed.

Operate in the order shown



❶ Set to the TAPE mode.
❷ Load a pre-recorded cassette in Deck A.
❸ Load a cassette for recording in Deck B.
❹ Select the desired reverse mode.
❺ Set to NORMAL SPEED or HIGH SPEED.
- When set to NORMAL SPEED, there is no indication in the display window.

❻ Press the ONE TOUCH REC button. (Synchronized dubbing will start.)

When dubbing a tape...
- The tape counter displays the tape position for deck B.
- A and B are displayed alternately.

- **How to stop dubbing in progress**
  Press the ■ button to stop Deck A and Deck B, releasing the dubbing mode. Also, when Deck A is stopped, Deck B stops automatically.

Note:
- Televisions placed close to this unit may cause interference on the recorded signal when this unit is used in the high-speed dubbing mode. If this happens, either turn off the television or use the normal-speed dubbing mode.

Erasing

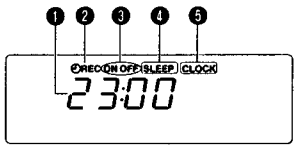
A recorded tape can be erased by recording new material over the previous material.

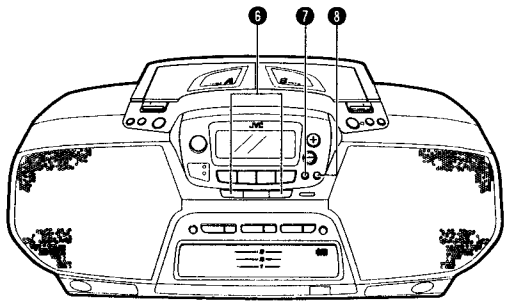
To erase a tape without making a new recording.....
1. Eject the tape from deck A.
2. Press the TAPE◁IC▷ button to set to the TAPE mode.
3. Insert the cassette with the side to be erased facing up in deck B.
4. Press the ONE TOUCH REC button.

It should be noted that it may be unlawful to re-record pre-recorded tapes, records, or discs without the consent of the owner of copyright in the sound or video recording, broadcast or cable programme and in any literary, dramatic, musical, or artistic work embodied therein.

CLOCK ADJUSTMENT

Names of parts in the clock/timer section, and their functions:

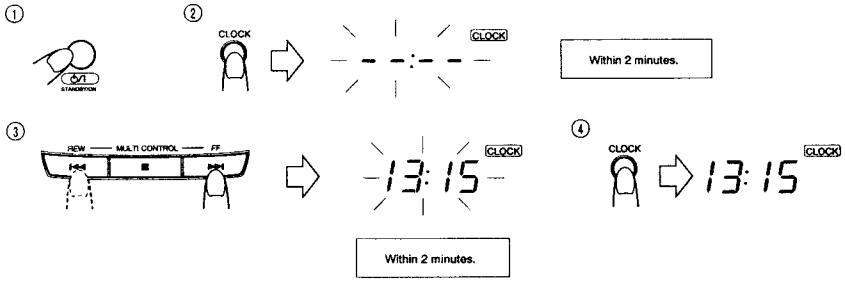




❶ Time display
❷ Timer mode indicator
❸ Timer indicator (ON/OFF)
❹ SLEEP indicator
❺ CLOCK indicator
❻ ⏮◀◀/▶▶⏭ buttons
❼ CLOCK button
❽ TIMER button

Setting the current time (when this unit is used for the first time)

(Example: To set the clock to 13:15.)



① Set the ⏻/I button to ON.
② Press the CLOCK button for 2 sec. or more; "--:--" will blink in the display.
③ Set to 13:15 by pressing the ⏮◀◀/▶▶⏭ buttons.
(When the button is kept pressed, the minute/hour indication changes continuously.)
④ Press the CLOCK button; the time will light in the display.

- To set to the nearest second...
  Press the CLOCK button when you hear the time signal from a TV or radio.

- **To confirm the current time**
  Press the CLOCK button. When the button is pressed again, the display shows the previously engaged mode.

Notes:
- Before performing timer recording or playback, it is necessary to set the current time.
- When the power cord is plugged in again after being disconnected for more than 2 minutes, or power is restored after a power failure lasting more than 2 minutes, "CLOCK" will blink in the display. Set the current time again.

TIMER OPERATIONS

Setting the timer

- The current time must be set before the timer can be used.

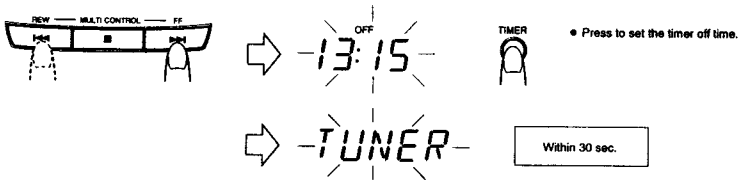
❶ Set the ⏻/I button to ON.

❷ Press the TIMER button.

❸ Set the start time.
(Example: To set the timer to 12:15.)

- Press to set the start time.

❹ Set the stop time.
(Example: To set the timer stop time to 13:15.)

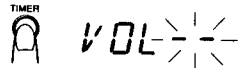


• Press to set the timer off time.

Within 30 sec.

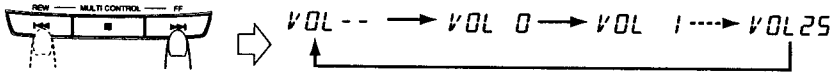
❺ Select the TIMER mode.
• The selected timer mode is shown in the display.

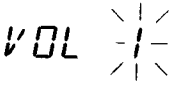
When the ►►I button is pressed to select the timer mode, the mode changes from TUNER (timer reception of a broadcast), to TUNER/REC (timer recording of a broadcast), to CD (timer play of a CD), to TAPE (timer playback of a tape), in this order.



Within 30 sec.

❻ Set the volume.





This shows when volume level 1 is selected.

• The unit enters the previously engaged mode and timer setting has been completed. (The (⏲) indicator lights.)

• When the volume setting is set to "VOL --" (volume level is not specified), the timer playback volume is at the level used before setting the timer.

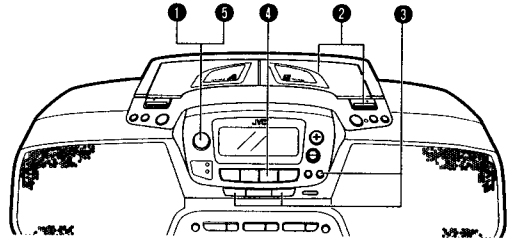
• **To confirm the timer setting**
1. Each time the TIMER button is pressed, the timer setting can be confirmed.
2. When the previously engaged mode is displayed, timer setting has been completed.

Note:
• When the timer is set incorrectly or the correct mode is not selected, perform "Setting the timer" from the beginning.

Timer recording of broadcast

• The current time must be set before the timer can be used.
• Make sure that the safety tabs of the cassette have not been broken off.

Operations



❶ Set the ⏻/I button to ON.
❷ Load a cassette in Deck B.
• Insert the cassette with the side to be recorded facing up.
• Select the required reverse mode (⇄ or ⇄).
❸ Set the timer. (Refer to "Setting the timer" on page 23.)
• Set the timer about a minute before the broadcast to be recorded is scheduled to start.
❹ Tune to the station to be recorded. (Refer to page 18.)
❺ Set the ⏻/I button to STANDBY.

• **Timer recording will start at timer start time and the power will be switched off at timer stop time.** (The timer mode is then released.)

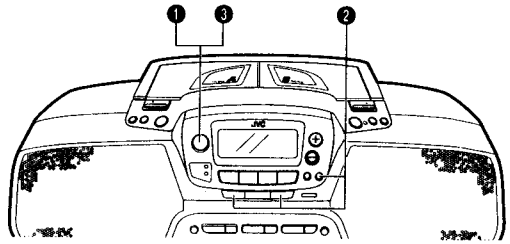
• **To cancel timer operation**
Press the TIMER button so that the timer mode indicator (⏲) goes out. If you do this, timer recording will not start at the timer start time.

Notes:
Once the timer has been set, the start and stop times, etc., are stored in memory. When timer recording or playback is required at different times, the timer must be set again.
• After setting the timer start and stop times, check that the tuner is tuned to the required frequency.
• When the power cord is disconnected for more than 2 minutes or there is a power failure lasting more than 2 minutes, timer settings will be erased from memory. If this happens, set the current time and perform the timer setting again.

Timer playback

• Timer playback of tapes, broadcasts and CDs is possible.

Operations



❶ Set the ⏻/I button to ON.
❷ Set the timer. (Refer to "Setting the timer" on page 23.)

Source sound	Timer mode	Operations
CD play	CD	Load a CD.
Tape playback	TAPE	Load a cassette tape.
Broadcast	TUNER	Tune to the required station.

❸ Set the ⏻/I button to STANDBY.

• Timer playback will start at the timer start time and the power will be switched off at the timer stop time.
The unit remains in the same timer mode even after the power is switched off. The same timer function will repeat at the same time on the following day.
• When the timer mode is activated, the "⏲" indicator blinks.
• When the power is switched on, it is possible to fade in the sound from volume level 0 (zero) to the preset volume.

• **To cancel timer operation**
Press the TIMER button so that the timer mode indicator (⏲) goes out.

Notes:
- When the volume setting is set to "VOL --" (volume level is not specified), the timer playback volume is at the level used before setting the timer. (In this case, the fade-in mode does not function.)
- To stop during timer playback, press the ⏻/I button to switch the unit off.

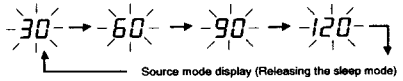
• To get an extra 5 minutes of sleep....
When timer playback starts, press the TIMER button. The power is switched off and timer playback restarts after 5 minutes (snooze function).

Sleep timer operations (using the remote control unit)

A. Use this when you want to fall asleep while listening to a tape, broadcast or CD.

① Set to the required source and tune (broadcast) or play back (CD or tape).
② Press the SLEEP button to set the sleep time.

SLEEP is shown in the display.



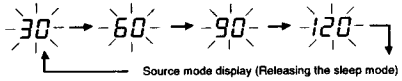
Source mode display (Releasing the sleep mode)

- Sleep time settings of 30, 60, 90 or 120 minutes can be set. When you release the SLEEP button, the source is displayed after 5 sec.

- The sleep timer operation will start and the power will be switched off after the specified time.
- **Checking the sleep time**
  When the SLEEP button is pressed, the remaining sleep time is displayed. If it is pressed again, a new sleep time can be set.
- **To cancel the sleep timer operation**
  Press the ⏻/I button to switch the power off or press the SLEEP button until the sleep time indicator disappears.

B. To fall asleep while listening to a tape, broadcast or CD and to perform timer playback the following morning

① Set the timer. (Refer to "Setting the timer" on page 23.)
② Set to the required source (broadcast, tape or CD).
③ Press the SLEEP button to set the sleep time.

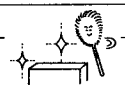


Source mode display (Releasing the sleep mode)

- Any source can be selected for sleep timer operation and timer playback. For example;
  - CD play for sleep timer operation and broadcast reception for timer playback.
  - Tape playback for sleep timer operation and CD play for timer playback.

However, when broadcast reception is selected for both sleep timer operation and timer playback, the station you heard at night will be tuned to the following morning.

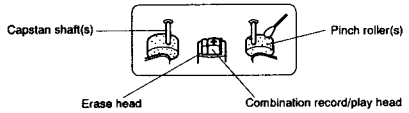
MAINTENANCE



Cleaning is important!
When the tape is running, magnetic powder and dust naturally accumulate on the heads, capstan and pinch roller. When they become too dirty...
- Sound quality deteriorates.
- The output sound level drops.
- Previously recorded tape is not completely erased.
- Recording is not performed satisfactorily.

Therefore, you should clean the heads, etc. after every 10 hours of use for optimal recording conditions.

Cleaning the heads, capstan and pinch roller
Open the cassette holder.
Clean the heads, pinch roller and capstan.
For effective cleaning, use a cleaning kit available from an audio store.
After cleaning, be sure that the cleaning fluid has dried completely before loading a cassette.



Cautions:
1. Keep magnets and metallic objects away from the head.
   If the head becomes magnetized, noise will increase and the sound will deteriorate. Demagnetize the head every 20-30 hours of use with a head eraser (available from an audio store). (When demagnetizing the head, the ⏻/I button should be set to STANDBY.)
2. Do not use anything other than alcohol for cleaning.
   Thinner and benzine will damage the rubber pinch roller.

TROUBLESHOOTING

What appears to be trouble is not always serious. First make sure....

- **When abnormal operation occurs.**
  * Unplug the AC power cord from the AC outlet. Then reconnect and switch the ⏻/I ON.
- **Power cannot be turned on.**
  * Is the power cord unplugged?
- **No sound from the speakers.**
  * Are headphones connected?

(CD Player Section)
- **The CD player does not play.**
  * Is the CD upside down?
  * Is the CD dirty?
- **A certain portion of the CD does not play correctly.**
  * Is the CD scratched?
- **CD playback is not performed when the CD CONTROL button is pressed.**
  * Is program mode engaged?
- **When the operation stops.**
  * Switch the ⏻/I standby and ON again.

(Cassette Deck Section)
- **Playback sound is at a very low level.**
  * Is the head dirty?
- **The ONE TOUCH REC button does not function.**
  * Have the safety tabs of the cassette been broken off?

(Tuner Section)
- **Reception is noisy.**
  * Try adjusting the antenna.

(Timer Section)
- **Timer operation does not start.**
  * Is the current time set correctly?
  * Is the timer mode indicator (⏲) displayed?

(Remote Control)
- **Remote control is impossible.**
  * Are the batteries in the remote control exhausted?
  * Is the remote sensor section exposed to bright light (direct sunlight, etc.)?

Note:
Before making an important recording, be sure to make a test recording first to check that the deck, etc. is working correctly.

SPECIFICATIONS

CD player section

Type	: Compact disc player
Signal detection system	: Non-contact optical pickup
Number of channels	: 2 channels
Frequency response	: 20 Hz - 20,000 Hz
Signal-to-noise ratio	: 90 dB
Wow & flutter	: Less than measurable limit

Radio section

Frequency range	: FM 87.5-108 MHz AM 522-1,629 kHz
Antennas	: Telescopic antenna for FM Ferrite core antenna for AM

Tape deck section

Track system	: 4-track 2-channel stereo
Motor	: Electronic governor DC motor for capstan
Heads	: Deck A; Hard permalloy head for playback Deck B; Hard permalloy head for recording/playback, 2 gap ferrite head for erasure (Combination head)
Frequency response	: 60 - 14,000 Hz (with CrO2 tape)
Wow & flutter	: 0.15% (WRMS)
Fast wind time	: Approx. 130 sec (C-60 cassette)

General

Speakers	
(Impedance)	: 10 cm (3 -15/16 inch) x 2 (3 Ω).
Power output	: 14 W (7 W + 7 W) at 3 Ω (Max.) 10 W (5 W+5 W) at 3 Ω (10% THD)
Input terminals	: AUX IN (300 mV/47 kΩ)
Output terminals	: PHONES (Output level: 0-18 mW/ch, 32 Ω, Matching impedance: 16 Ω - 1 kΩ)
Power requirements	: AC 230 V, 50 Hz Ext. DC 12 V (car battery via optional CA - R120E car adapter)
Power consumption	: 19 W (with ⏻/I SW ON) 3 W (with ⏻/I SW STANDBY)
Dimensions	: 480 (W) x 179 (H) x 283 (D) including knobs
Weight	: 6.4 kg (with batteries) 5.6 kg (without batteries)
Accessories provided	: AC power cord x 1 Remote control unit (RM-RXQC7BKE) x 1 "R6/AA (15F)" batteries x 2 (for the remote control)

Design and specifications are subject to change without notice.

4.Location of Main Parts

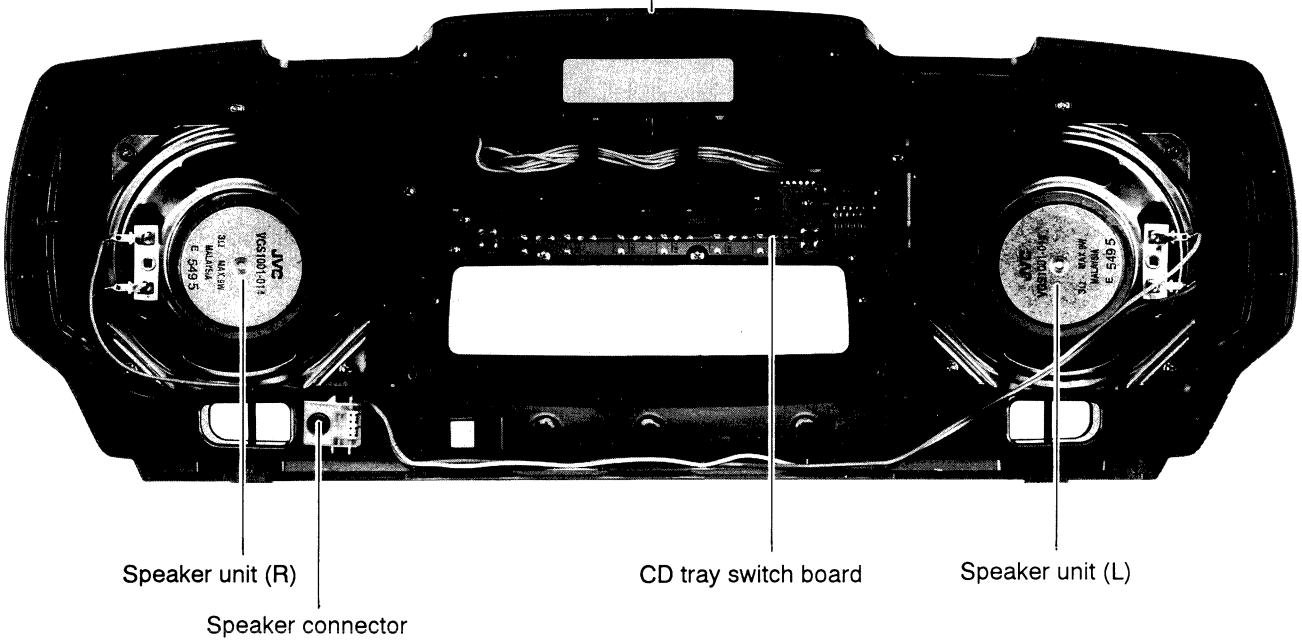


Fig.4-1

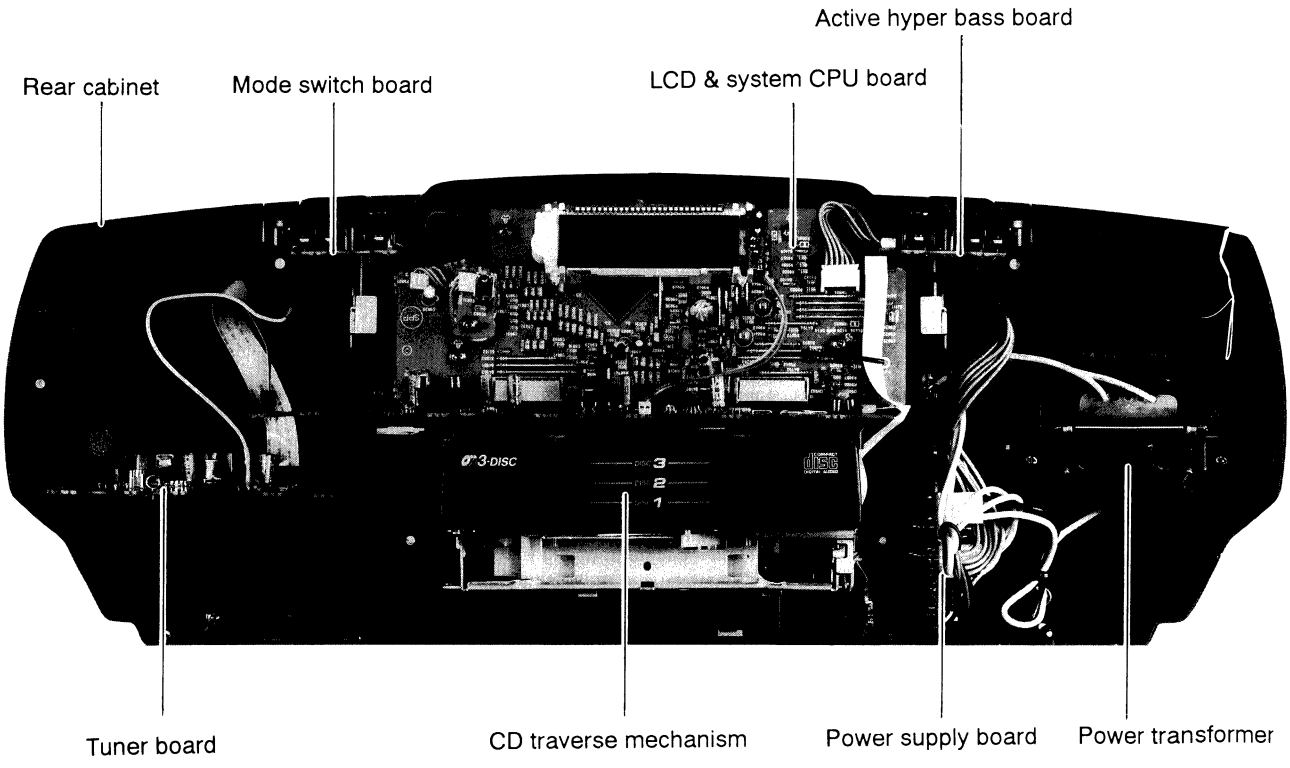


Fig.4-2

《CD traverse mechanism part》

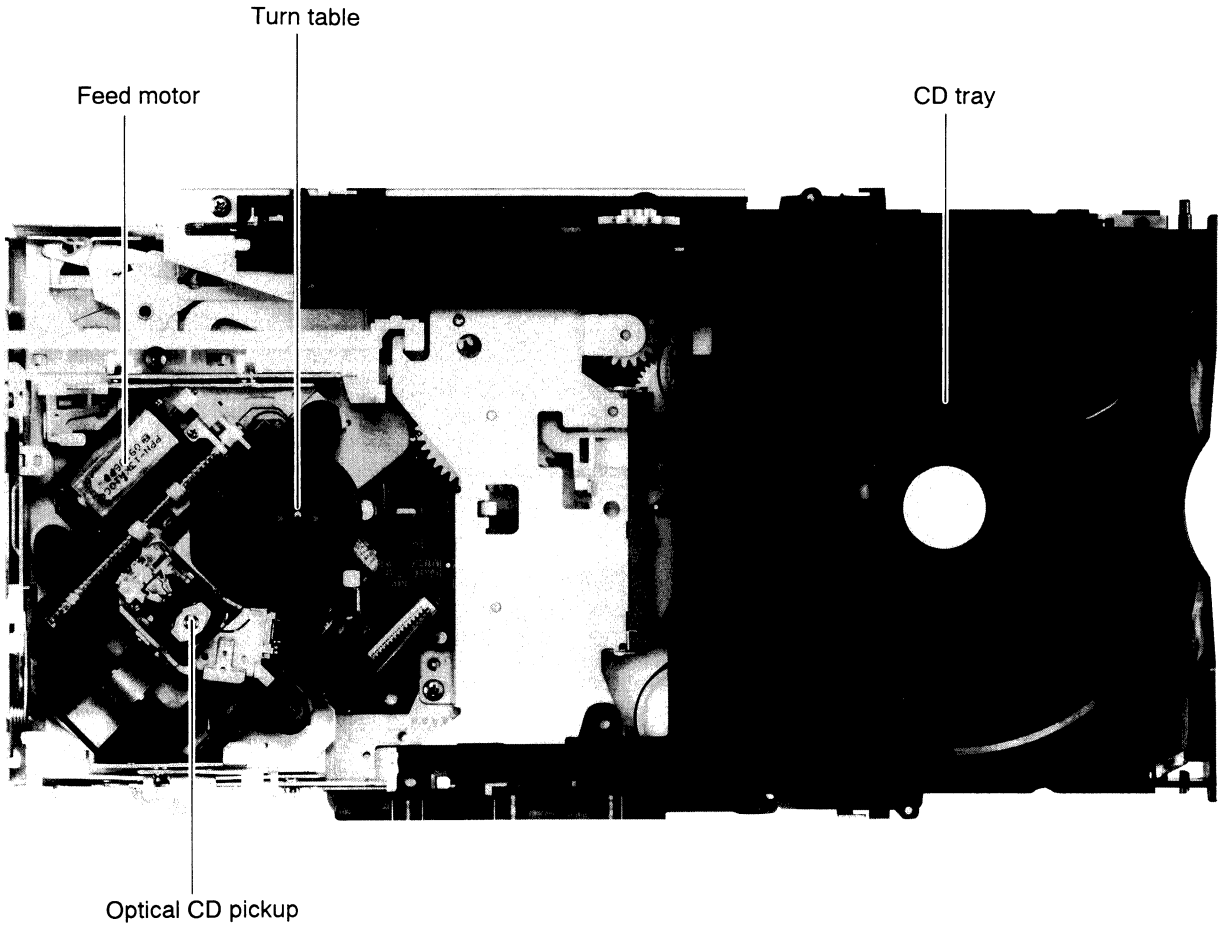


Fig.4-3

《Cassette mechanism part》

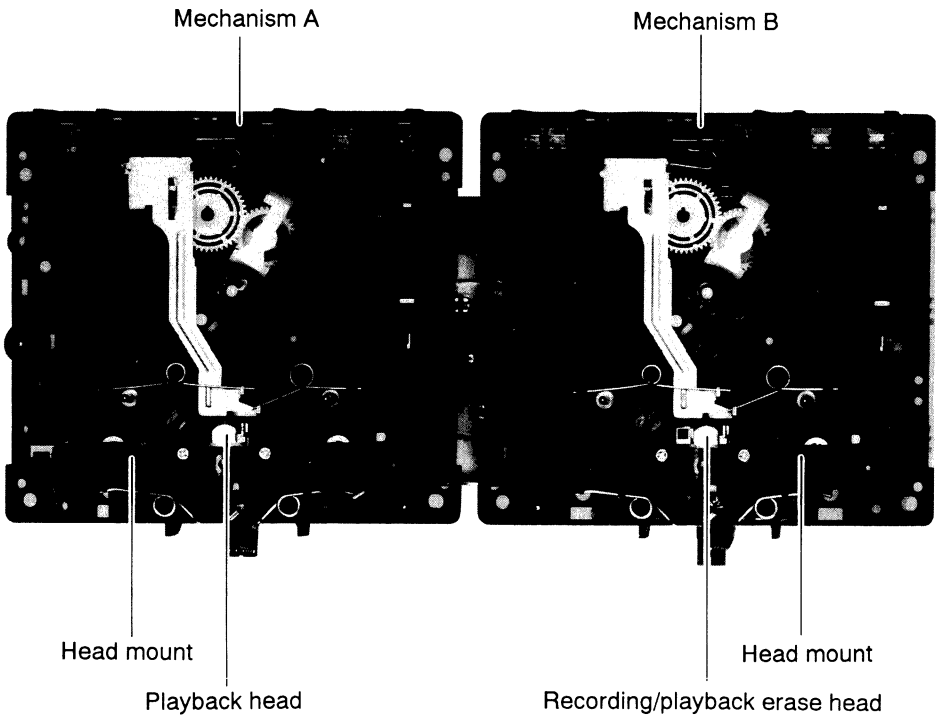


Fig.4-4

5.Removal of Main Parts

■ Removing the Front and Rear Cabinet Assemblies

1. Remove the battery cover from behind the body (See Fig. 5-1).
2. Remove the six screws ① retaining the rear cabinet assembly (See Fig. 5-1).
3. Remove the two screws ② retaining the handle (See Fig. 5-1).
4. While spreading the mating face of front cabinet and rear cabinet assemblies, remove the font cabinet assembly. Then, the speaker connector on the front cabinet side will be disconnected from the connector CN192 on the power supply P.C. board in the rear cabinet assembly. At the same time, the connector CN252 on the CD tray operating switch P.C. board on the front cabinet assembly side will also be disconnected from the connector CN407 on the main amp. assembly (See Fig. 5-2).

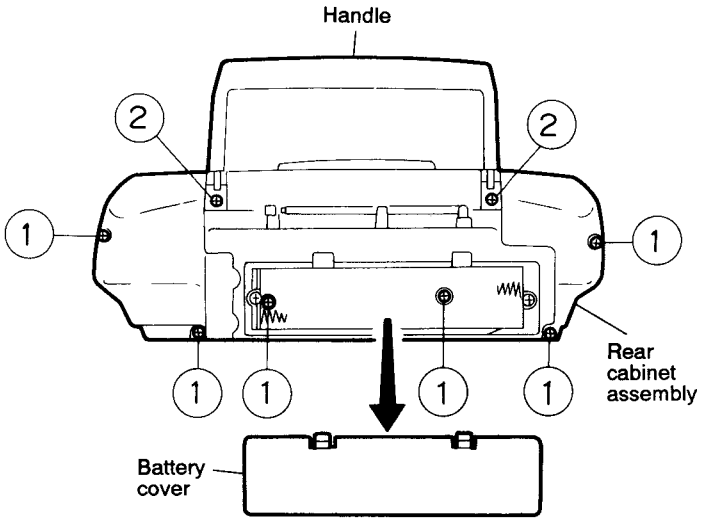


Fig.5-1

■ Removing the Cassette Mechanism and CD Traverse Mechanism Unit

1. Remove the front cabinet assembly.
2. Disconnect the two card wires outgoing from the CD traverse mechanism unit respectively from the connector CN404 on the main amp. P.C. board and the connector CN903 on the LCD & system CPU P.C. board (See Fig. 5-3).
3. From the connector CN403 on the main amp. P.C. board, disconnect the card wire outgoing from the tuner P.C. board (See Fig. 5-2, 3).
4. From the connector CN404 on the power supply P.C. board, disconnect the 6- PIN connector outgoing from the main amp. P.C. board (See Fig. 5-3).
5. Pull out the cassette mechanism assembly from the rear cabinet assembly (See Fig. 5-3).
6. Pull out the CD traverse mechanism unit from the rear cabinet assembly (See Fig. 5-3).

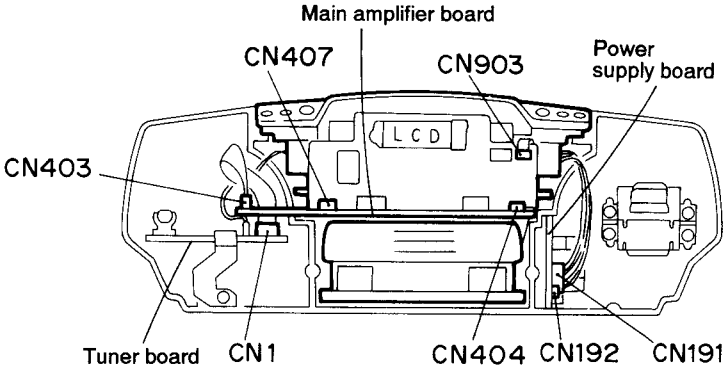


Fig.5-2

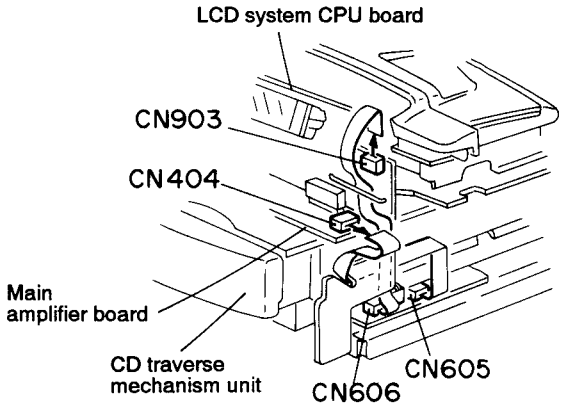


Fig.5-3

■ Removing the Main Amp. P.C. Board and LCD & System CPU P.C. board

1. Remove the front cabinet assembly
2. Remove the cassette mechanism unit and CD traverse mechanism unit from the body.
3. From the connector CN904 on the LCD & system CPU P.C. board, disconnect the 6 - PIN connector wire outgoing from the active hyper - bass P.C. board (See Fig. 5-4).
4. From the front of the cassette mechanism unit, remove the four screws ③ retaining the LCD & system CPU P.C. board (See Fig. 5-4).
5. By removing the one screw ④ retaining the remote control sensor P.C. board, dismount this P.C. board (See Fig. 5-4).
6. After turning over the cassette mechanism unit, remove the five screws ⑤ retaining the main amp. P.C. board (See Fig. 5-5).
7. From the cassette mechanism unit, remove the LCD & system CPU P. C. board and man amp. P.C. board at the same time.
8. Disconnect the card wires outgoing from the connectors CN305 and CN306 on the head amp. & mechanism control P.C. board on the cassette mechanism side respectively from the connectors CN405 and CN406 on the main amp. P.C. board (See Fig. 5-5).

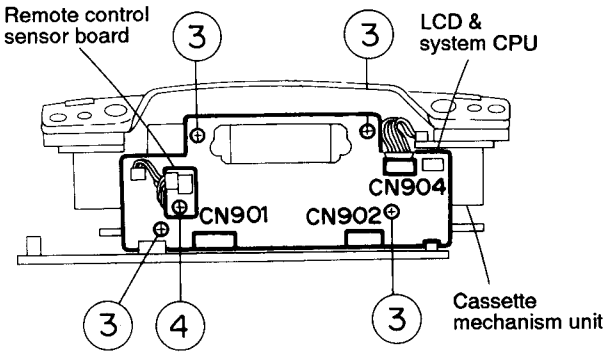


Fig.5-4

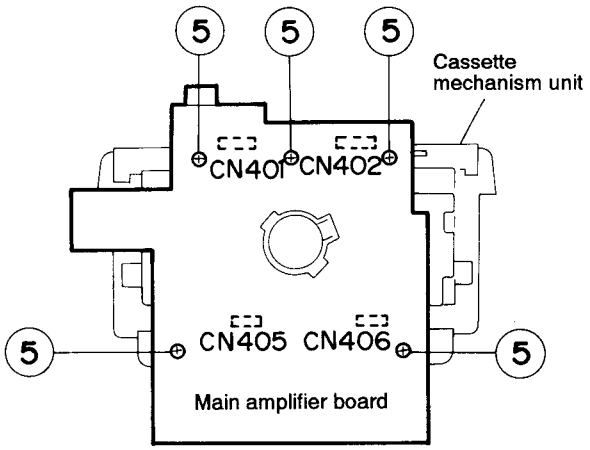


Fig.5-5

■ Removing the Cassette Mechanism Assembly (See Fig. 5-6)

1. Remove the front cabinet assembly.
2. Pull out the cassette mechanism unit and CD traverse mechanism unit from the body.
3. Remove the main amp. and LCD & system CPU P.C. boards.
4. From the top cover assembly, remove the eight screws ⑥ retaining the cassette mechanism unit.

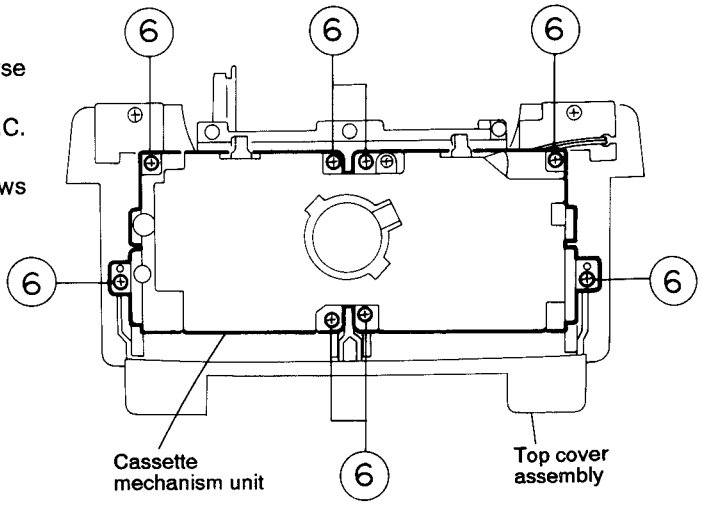


Fig.5-6

■ Removing the Mode Switch and Active hyper-Bass P.C. Board (See Fig. 5-7)

1. From the back of the cassette mechanism unit, remove the three screws ⑦ retaining the active hyper-bass P.C. board.
2. From the back of the cassette mechanism unit, remove the three screws ⑧ retaining the mode switch P.C. board.

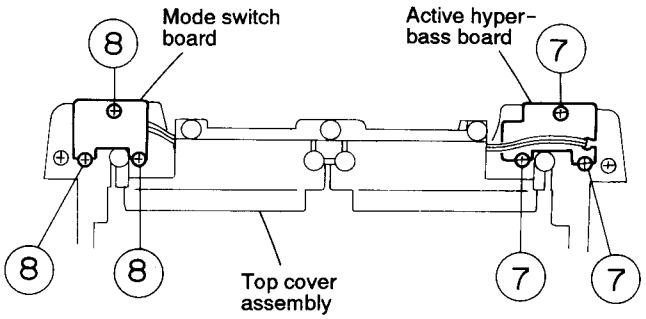


Fig.5-7

■ Removing the CD Traverse Mechanism Unit

1. Remove the front cabinet assembly.
2. Pull out the cassette mechanism unit and CD traverse mechanism unit from the body.
3. Remove the main amp. and LCD & system CPU P.C. boards.
4. Remove the four screws ⑨ retaining the CD traverse mechanism unit (See Fig. 5-8).

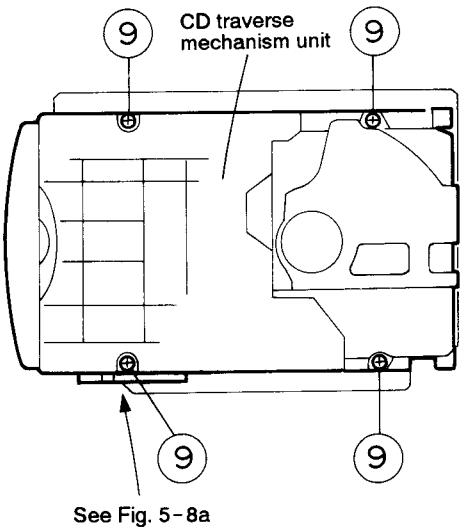


Fig.5-8

■ Removing the Right and Left Speaker Units (See Fig. 5-9)

1. Remove the Front Cabinet Assembly
2. From inside the front cabinet, remove the four screws ⑪ retaining the right and left caps.
3. Remove the eight screws ⑫ retaining the right and left speaker units (The screw ⑬ retaining the speaker connector wire should also be removed when necessary).

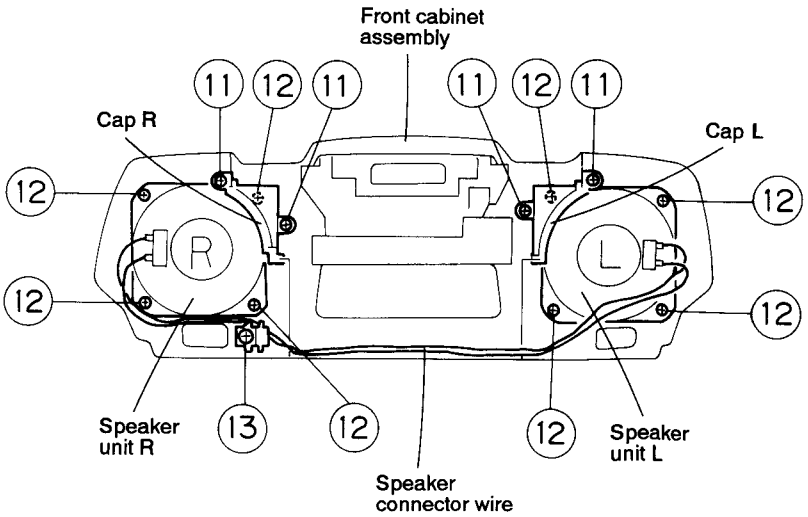


Fig.5-9

■ Removing the CD Tray Operating Switch and Function Switch P. C. Boards

(See Figs. 5-10 and 5-11)

1. Remove the front cabinet assembly.
2. Remove the seven screws (⑬ × 5 and ⑭ × 2) retaining the CD tray operating switch P.C. board.
3. From the connector CN251 on the CD tray operating switch P.C. board, disconnect the 8pin connector wire outgoing from the function switch P. C. board.
4. Remove the four screws ⑮ retaining the front cabinet assembly.
5. From inside the front cabinet assembly, remove the seven screws ⓐ retaining the function switch P.C. board.

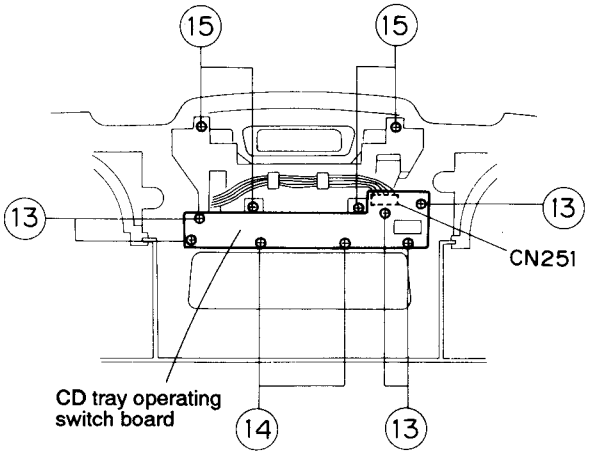


Fig. 5-10

■ Removing the Tuner P.C. board (See Fig. 5-12)

1. Open the front cabinet assembly.
2. From the connector CN403 on the main amp. P.C. board, disconnect the card wire outgoing from the connector CN1 on the tuner P. C. board.
3. After removing the one screw ⓑ retaining the P.C. board holder, pull out the tuner P.C. board.
4. Pull off the antenna wire from TP1 on the tuner P.C. board.

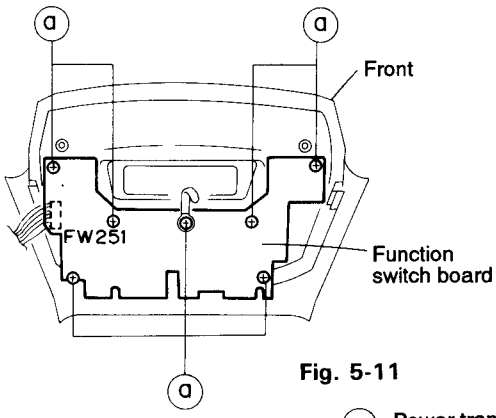


Fig. 5-11

■ Removing the Peripheral Parts Mainly Consisting of Power Transformer

1. Open the front cabinet assembly.
2. Remove the four screws ⓒ retaining the power transformer (See Fig. 5-13).
3. From the connector CN195 on the power supply P.C. board, disconnect the yellow 2pin connector wire (See Fig. 5-13).
4. From the connector CN194 on the power supply P.C. board, disconnect the white and brown 2pin connector wires (See Fig. 5-13).
5. From the connector CN193 on the power supply P.C. board, disconnect the red and black 2pin connector wires (See Fig. 5-13).
6. Remove the two screws ⓓ retaining the power supply P.C. board (See Fig. 5-14).
7. Remove the one screw ⓔ retaining the battery contact P.C. board (See Fig. 5-15).

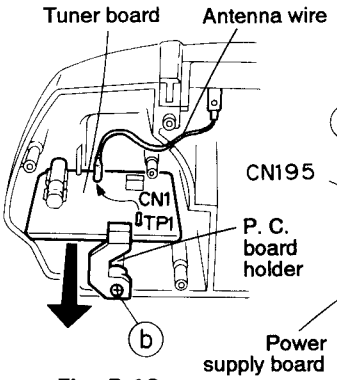


Fig. 5-12

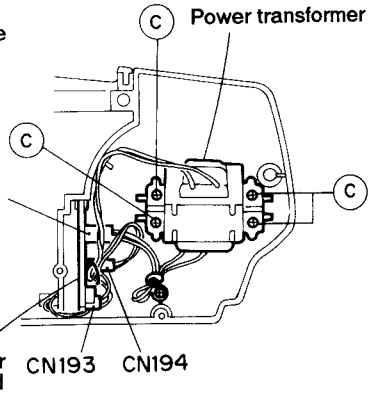


Fig. 5-13

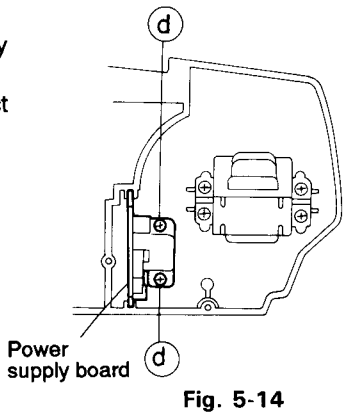


Fig. 5-14

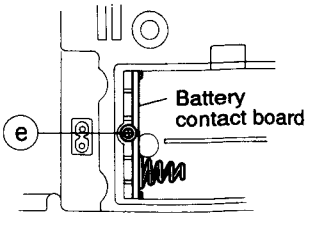


Fig. 5-15

《Cassette Mechanism Section》

■ Removing the Playback, Recording and Eraser Heads

1. While shifting the trigger arms seen on the right side of the head mount in the arrow direction, turn the flywheel R in counterclockwise direction until the head mount has gone out with a click (See Fig. 5-16).
2. When the flywheel R is rotated in counterclockwise direction, the playback head will be turned in counterclockwise direction from the position in Fig. 5-17 to that in Fig. 5-18.
3. At this position, disconnect the flexible P.C. board (outgoing from the playback head) from the connector CN301 on the head amp. & mechanism control P.C. board.
4. After dismounting the FPC holder, remove the flexible P.C. board.
5. Remove the flexible P.C. board from the chassis base.
6. Remove the spring ⓐ from behind the playback head.
7. Loosen the reversing azimuth screw retaining the playback head.
8. Take out the playback head from the front of the head mount.
9. The recording and eraser heads should also be removed similarly according to Steps 1~8 above.

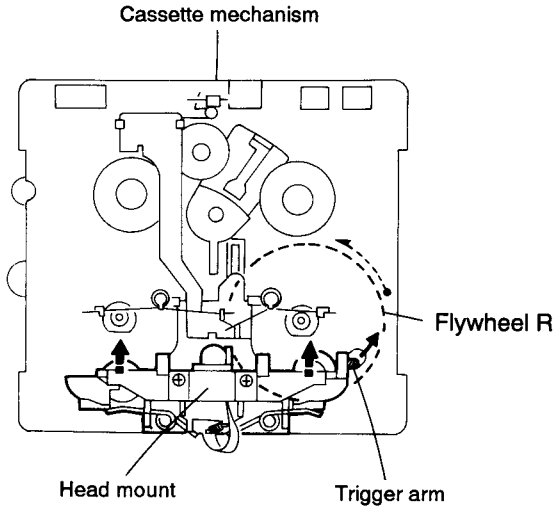


Fig. 5-16 (Mechanism A side)

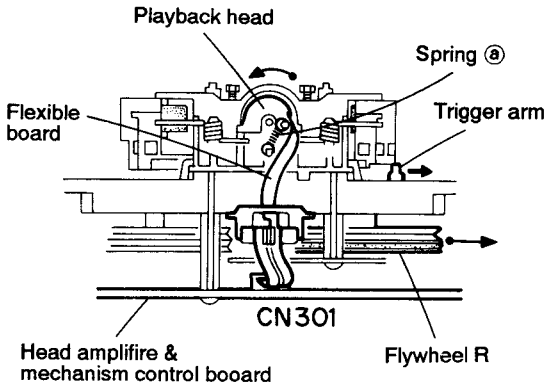


Fig. 5-17 (Mechanism A side)

● Reassembling the Playback, Recording and Eraser Heads

1. Reassemble the playback head from the front of the head mount to the position as shown in Fig. 5-18.
2. Fix the reversing azimuth screw.
3. Set the spring ⓐ from behind the playback head.
4. Attach the flexible P.C. board to the chassis base, and fix it with the FPC holder as shown in Fig. 5-18.
5. The recording and eraser heads should also be reassembled similarly according to Steps 1~4 above.

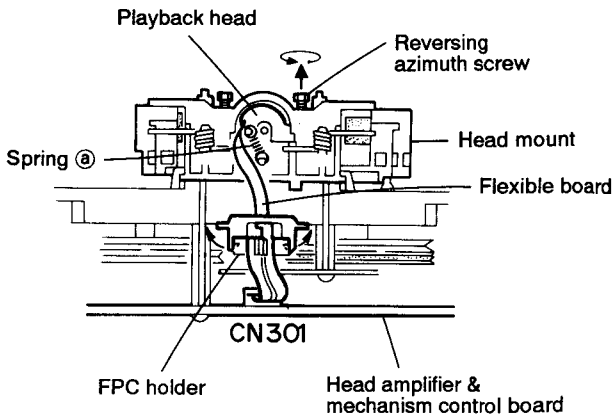


Fig. 5-18 (Mechanism B side)

■ Removing the Head Amp. & Mechanism Control P.C. Board (See Fig. 5-19)

1. Remove the cassette mechanism assembly.
2. After turning over the cassette mechanism assembly, remove the five screws ① retaining the head amp. & mechanism control P.C. board.
3. Disconnect the connectors CN303 and CN304 on the P.C. board and the connectors CN1 on both the right and left side reel pulse P.C. boards.
4. When necessary, remove the 4pin parallel wire soldered to the main motor.

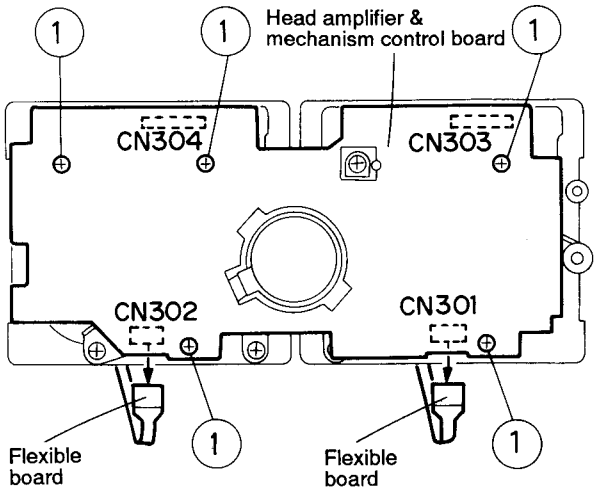


Fig. 5-19

■ Removing the Capstan Motor Assembly

1. Remove the six screws ② retaining the capstan motor assembly (See Fig. 5-20).
2. While raising the capstan motor, remove the capstan belts A and B respectively from the motor pulley (See Fig. 5-20 and 5-21).

Caution 1: Be sure to handle the capstan belts so carefully that these belts will not be stained by grease and other foreign matter. Moreover, these belts should be hanged while referring to the capstan belt hanging method in Fig. 5-21.

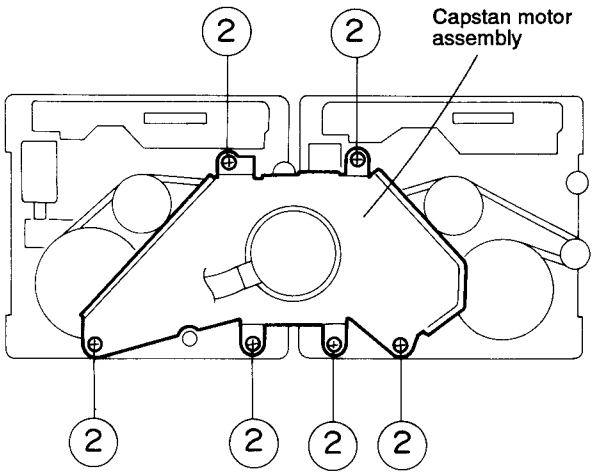


Fig. 5-20

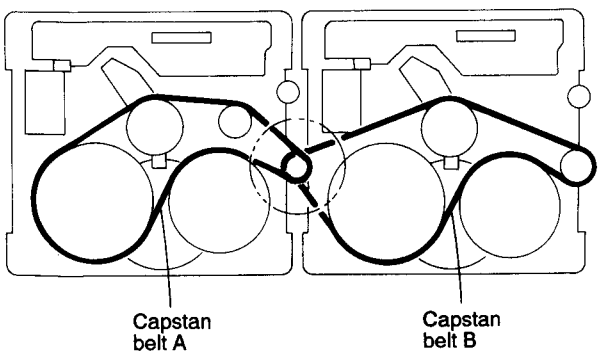


Fig. 5-21

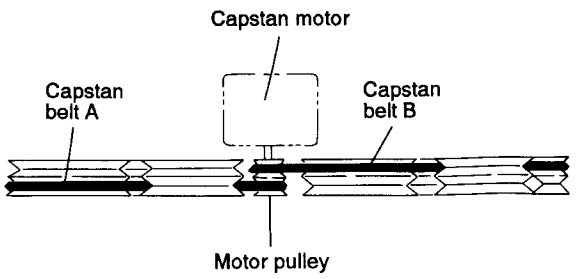


Fig. 5-22

■ Removing the Capstan Motor (See Fig. 5-23)

From the joint bracket, remove the two screws ③ retaining the capstan motor.

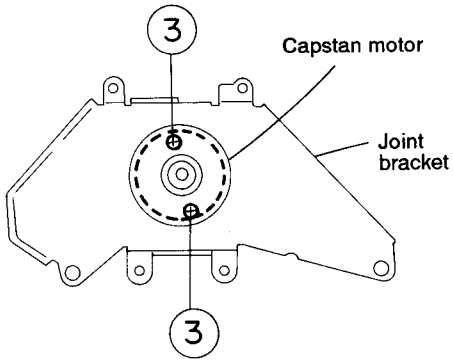


Fig. 5-23

■ Removing the Flywheel (See Figs. 5-24 and 5-25)

1. Remove the head amp. & mechanism control P.C. board.
2. Remove the capstan motor assembly.
3. After turning over the cassette mechanism, remove the slit washers ⓐ and ⓑ fixing the capstan shafts R and L, and pull out the flywheels R and L respectively from behind the cassette mechanism.

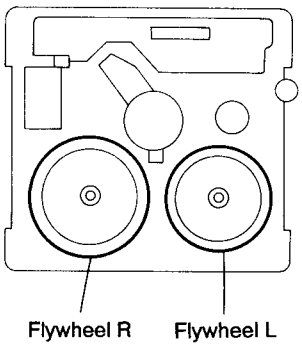


Fig. 5-24

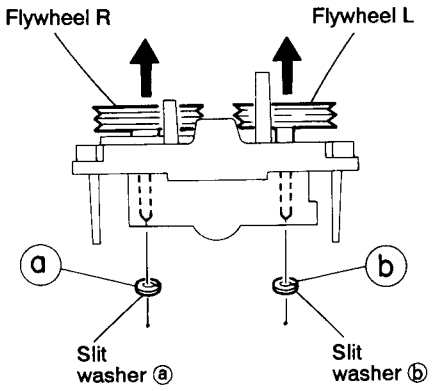


Fig. 5-25

■ Removing the Reel Pulse P.C. Board and Solenoid (See Fig. 5-26)

1. Remove the five pawls (ⓒ, ⓓ, ⓔ, ⓕ and ⓖ) retaining the reel pulse P.C. board.
2. From the surface of the reel pulse P.C. board parts, remove the two pawls ⓗ and ⓘ retaining the solenoid.

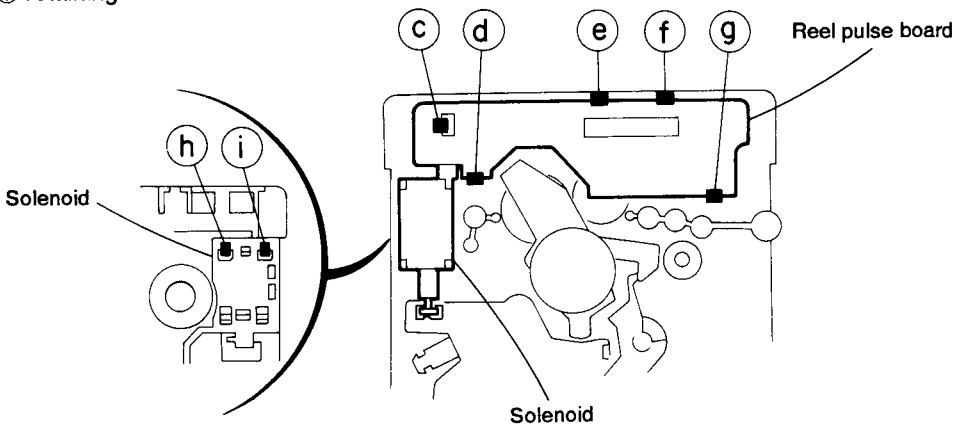


Fig. 5-26

《CD Traverse Mechanism Section》

■ Removing the CD Mechanism Section

1. Remove the CD traverse mechanism assembly from the body.
   Caution 1: Prior to removing CD traverse mechanism assembly, be sure to set all of the sub-trays to the [STOP] mode.
   Caution 2: In the case of removing the mechanism when this system has been set to the [PLAY] mode, the slide cam L on the left side of the CD traverse mechanism should be moved in the arrow A direction and positioned to [A]. Under this condition, the CD traverse mechanism will be lowered to the position as shown in Fig. 5-27).
2. Remove the four screws ① retaining the top cover (See Fig. 5-28).
3. After pulling out the rod from the clamper, remove it together with the top cover (See Figs. 5-28 and 5-28a).
4. Pull out the CD tray.
5. Remove the one screw ② retaining the clamper (See Fig. 5-29).
6. After moving the clamper in the arrow B direction and shifting it in the arrow C direction, take it out from the engagement section [B] (See Fig. 5-29).

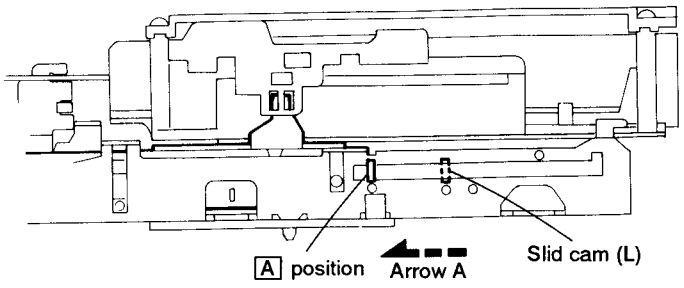


Fig. 5-27

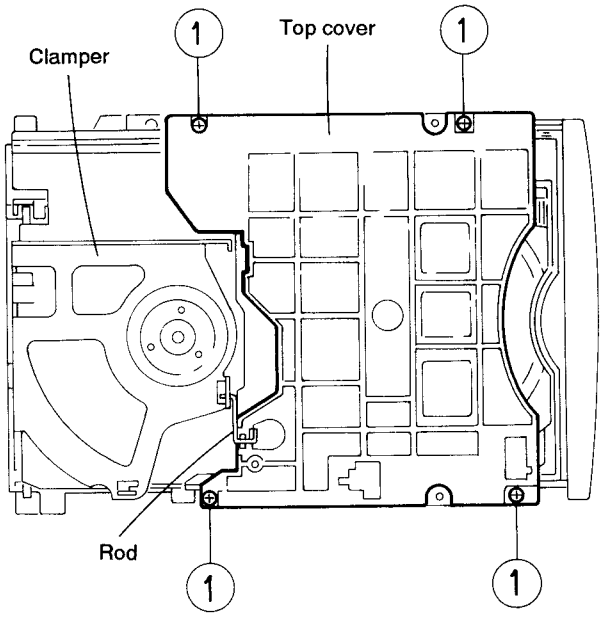


Fig. 5-28

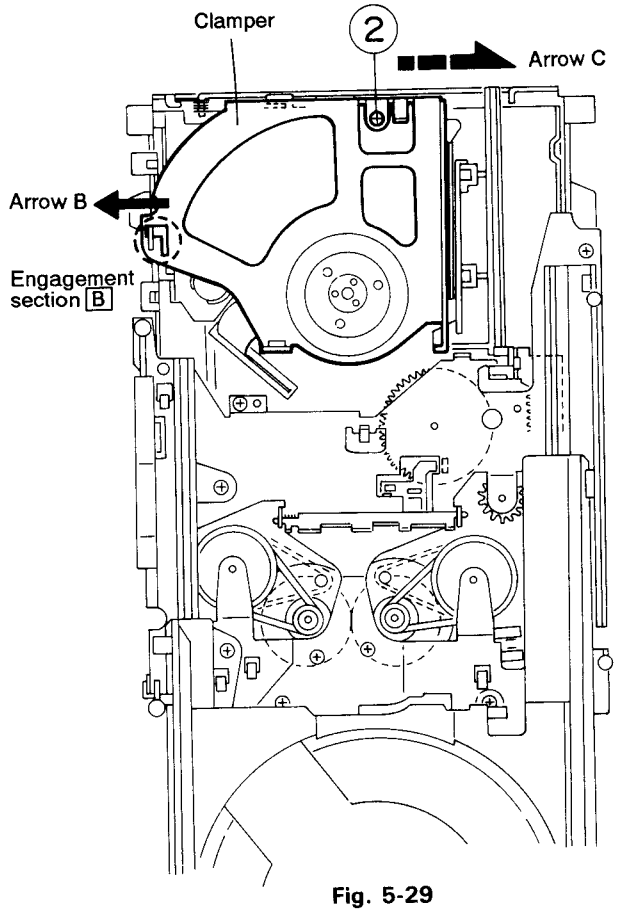


Fig. 5-29

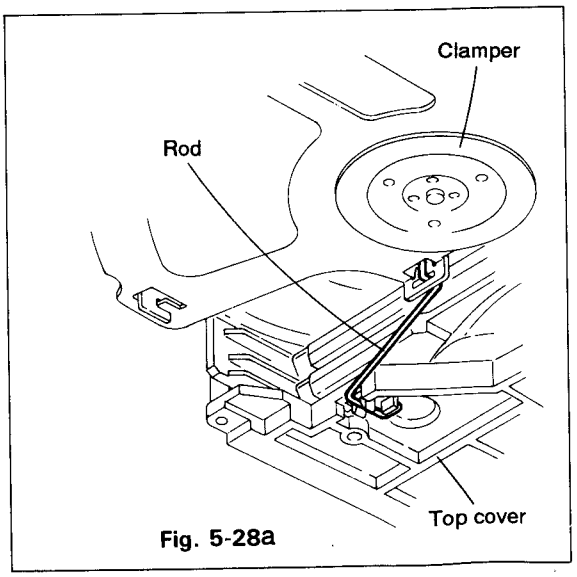


Fig. 5-28a

7. Move the center pawl in the arrow D direction and remove the stopper fixing the CD mechanism as shown in Fig. 5-30.
8. Remove and take out the three insulators from the CD mechanism by using tweezers and so forth (See Fig. 5-30).
9. By soldering, fill the position (in Fig. 5 - 31) of the flexible P.C. board outgoing from the CD mechanism.
10. From the connector CN601 on the CD traverse mechanism control & servo P.C. board, remove the flexible P. C. board (See Fig. 5-31).

Caution: Since it will be hard to remove the flexible P.C. board from the connector CN601, use pliers after covering with cloth, etc. so as not to cause any damage to the P.C. board and connector.

● Procedures for Reassembling the CD Mechanism

•In principle, reassemble the CD mechanism according to the opposite orders of the removing steps. Meanwhile, be sure to remove any filled portion by soldering in "Removing Step 9" above.

• After aligning the engagements B and C at the position where the CD mechanism has been lowered as described in "Removing Steps 6 and 7", be sure to mount the mechanism straight and fix the mechanism with screws.

• After aligning the slide cam R as shown in Fig. 5 - 32 (See "Removing Step 2"), mount the top cover and fix the mechanism with screws.

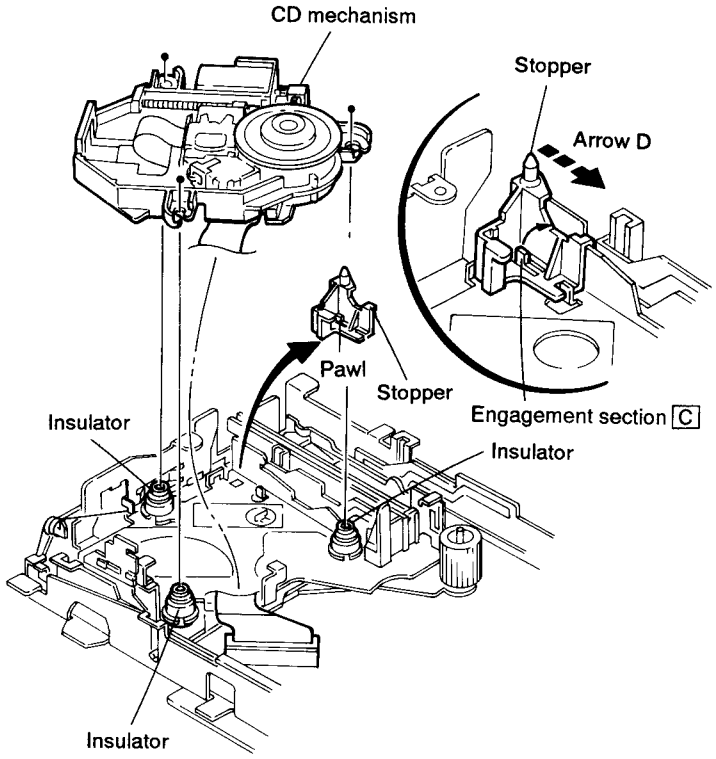


Fig. 5-30

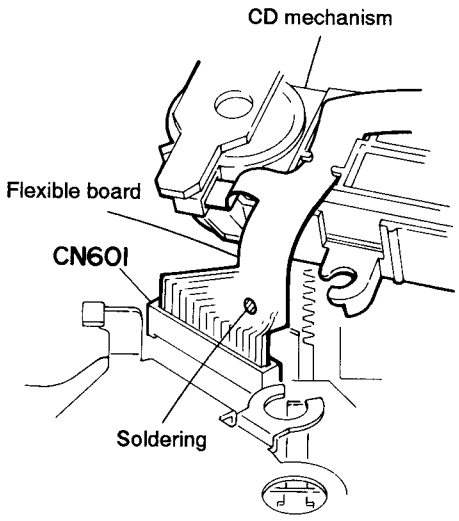


Fig. 5-31

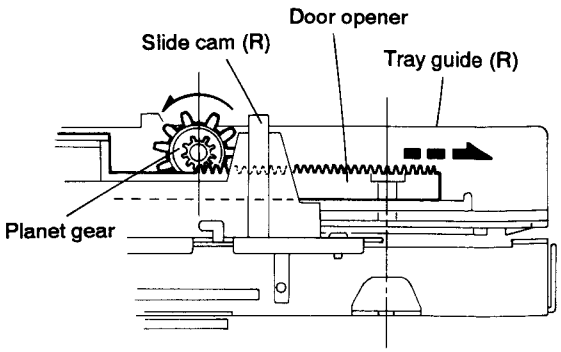


Fig. 5-32

■ Removing the CD Tray

1. Remove the top cover.
2. Pull out the CD tray.
3. Remove the two screws ③ retaining the tray guide (L) unit (See 5-33).
4. Disengage the two engagements [D] fixing the tray guide (L) unit while moving the engagements in the arrow E direction (See Fig. 5-34).
5. Pull out the engagement [E] from the mechanism chassis, and remove it together with the CD tray (See Fig. 5-34).

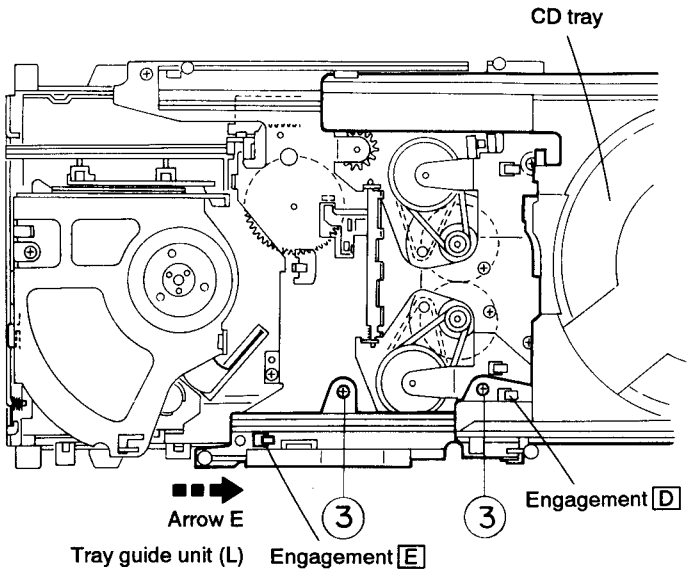


Fig. 5-33

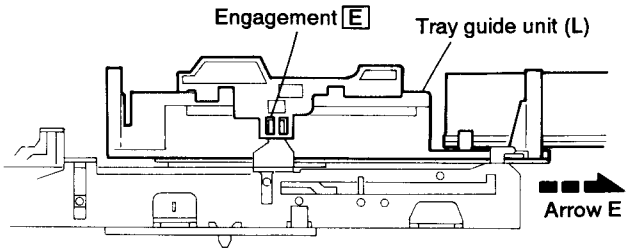


Fig. 5-34

■ Removing the CD Traverse Mechanism Control & Servo P.C. Board

1. Remove the top cover.
2. Pull out the CD tray.
3. The two belts which have been dismounted from the tray & cam drive motor should be hanged again to the motor pulley as shown in Fig. 5-35.
4. Remove the two screws ④ retaining the tray & cam drive motor (See 5-35).

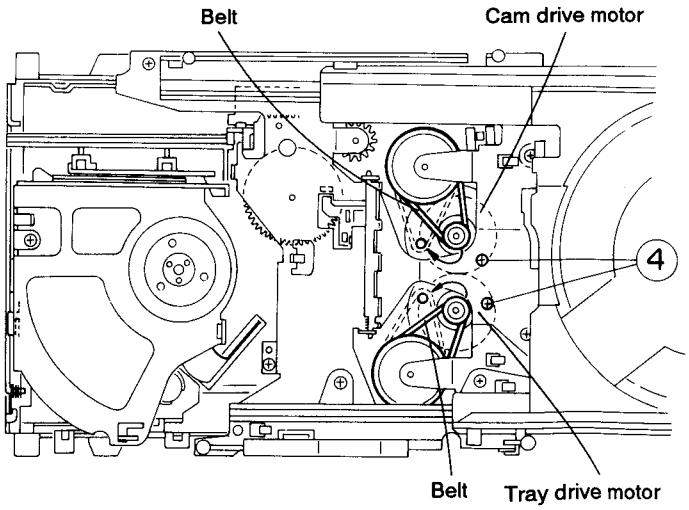


Fig. 5-35

5. After turning over the CD traverse mechanism, remove the four screws ⑤ retaining the CD traverse mechanism control & servo P.C. board (See Fig. 5-36).
6. While raising the P.C. board, perform soldering to fill the position on the flexible P.C. board outgoing from the CD pickup unit (See Fig. 5-37).
7. After turning over the CD traverse mechanism, remove the flexible P.C. board from the connector CN601 on the CD traverse mechanism control & servo P.C. board (See Fig. 5-37).
8. Remove the CD traverse mechanism control & servo P.C. board.

● Procedures for Reassembling the CD Traverse Mechanism Control & Servo P.C. Board
- In principle, this P.C. board should be reassembled according to the opposite removing steps. For mounting the CD traverse mechanism control & servo P.C. board, insert the main switch (blue) on the P.C. board into the position in Fig. 5-38.
- Be sure to hang the two belts which have been dismounted from the tray & cam drive motor.

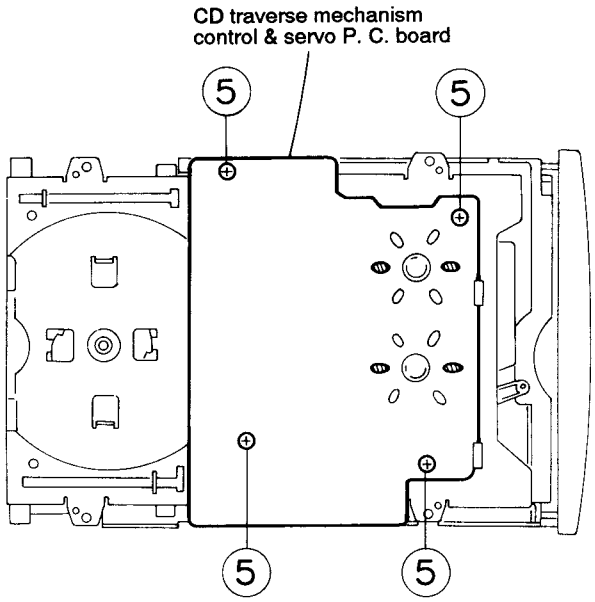


Fig. 5-36

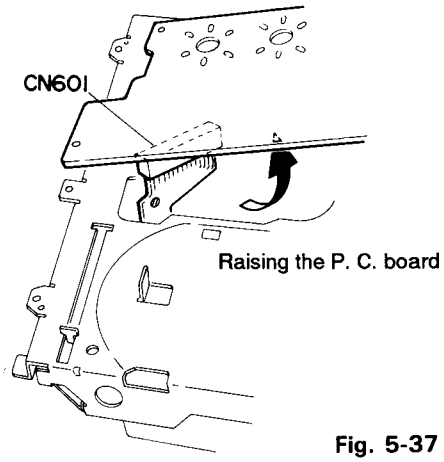


Fig. 5-37

■ Removing the Cam and Tray Drive Motors

1. Remove the top cover.
2. Pull out the CD tray.
3. Remove the CD traverse mechanism control & servo P.C. board.
4. After removing the two soldered portions ⓐ on the surface of the CD traverse mechanism control & servo P.C. board, remove the tray drive motor (See Fig. 5-39).
5. After removing the two soldered portions ⓑ on the surface of the CD traverse mechanism control & servo P.C. board, remove the cam drive motor (See Fig. 5-39).

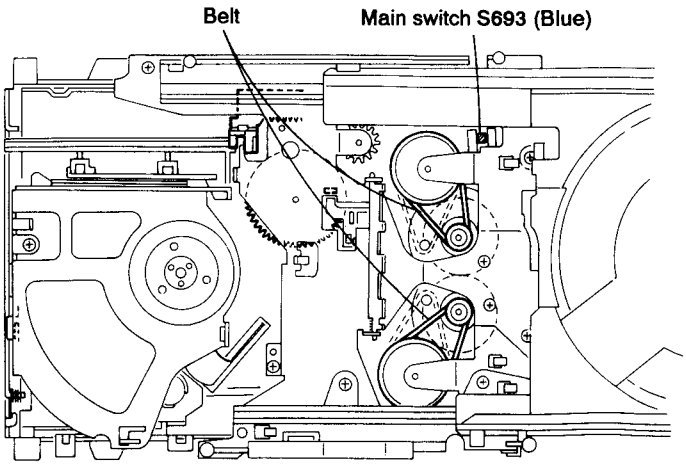


Fig. 5-38

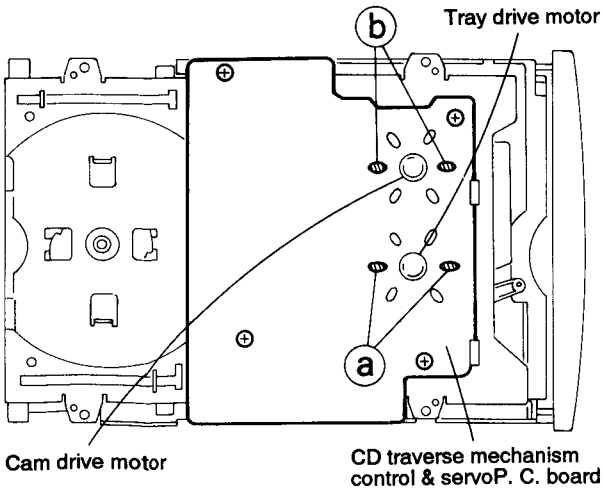


Fig. 5-39

■ Removing the CD Pickup Unit

1. Remove the top cover.
2. Pull out the clamper.
3. Remove the CD mechanism.
4. Shift the CD pickup unit in the arrow F direction (See Fig. 5-40).
5. Remove the one screw ⑥ retaining the shaft holder (See 5-40).
6. After removing the two screws ⑦ retaining the rack arm, take out the S.S. gear assembly (See 5-40).
7. By soldering, fill the position on the back surface of the CD pickup unit (See Fig. 5-41).
8. Remove the flexible P.C. board from the connector on the back surface of the CD pickup unit.

● Procedures for Reassembling the CD Pickup Unit

- In principle, this unit should be reassembled according to the opposite order of the removing steps.

Caution

The rack arm should be screw-clamped first from the round hole.

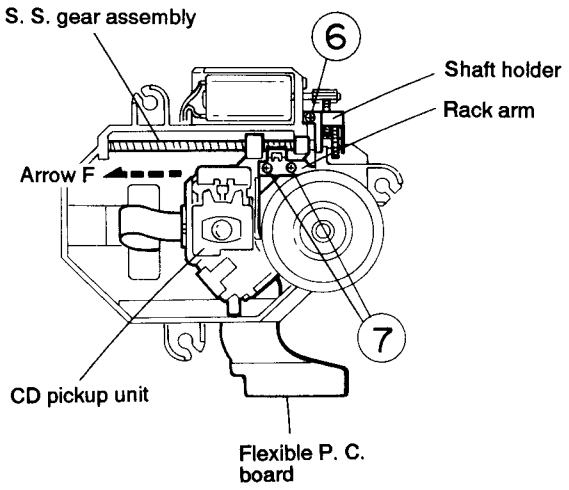


Fig. 5-40

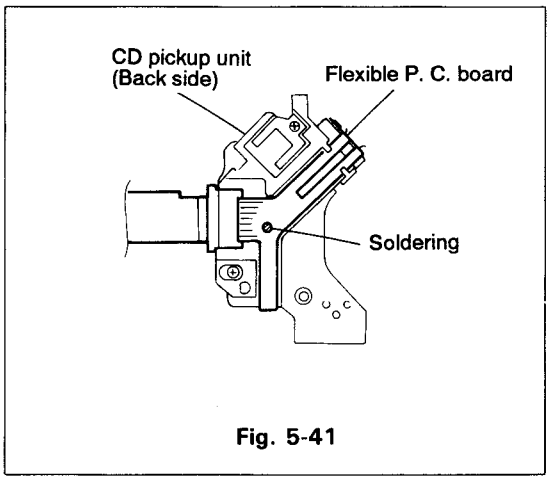


Fig. 5-41

■ Removing the Feed Motor Assembly

1. Remove the top cover.
2. Pull out the clamper.
3. Remove the CD mechanism.
4. After removing the one screw ⑧ retaining the feed motor assembly, take out this assembly (See 5-42).
5. After turning over the CD mechanism, remove it from the lead wire treating key way on the feed motor assembly (See Fig. 5-42).
6. Remove the soldered portion of the lead wires (red and black) from the spindle motor P.C. board (See Fig. 5-42).

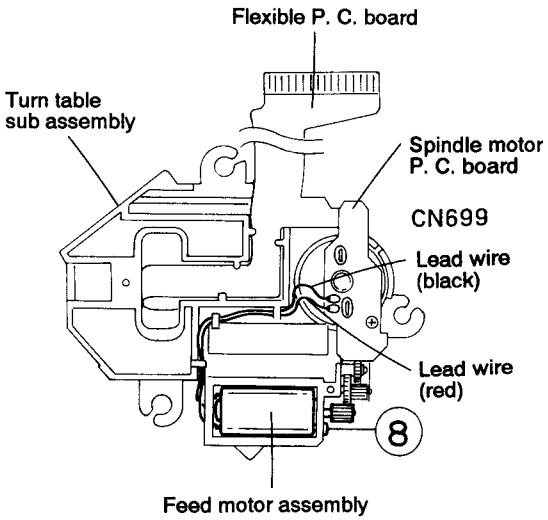


Fig. 5-42

■ Removing the Spindle Motor Assembly

1. Remove the top cover.
2. Pull out the clamper.
3. Remove the CD mechanism.
4. Remove the CD pickup unit.
5. Pull out the middle gear.
6. Remove the feed motor.
7. After turning over the CD mechanism, remove the two soldered portions ⓒ on the spindle motor P.C. board (See Fig. 5-43).
8. After removing the flexible P.C. board from the connector CN699 on the spindle motor P.C. board, take out the flexible P.C. board from the turn table sub-assembly (See Fig. 5-43).
9. The spindle motor and turn table will not be supplied individually as single units but as a turn table sub-assembly (in combination with the spindle motor, turn table and mechanism chassis). Therefore, be sure to change the sub-assembly instead of changing the individual spindle motor or turn table alone.

   Caution: Since LOCK-TIGHT 460 is applied for press-in sections of the turn table and spindle motor shaft, be sure to remove the shaft so carefully as not to cause any damage to the spindle motor.

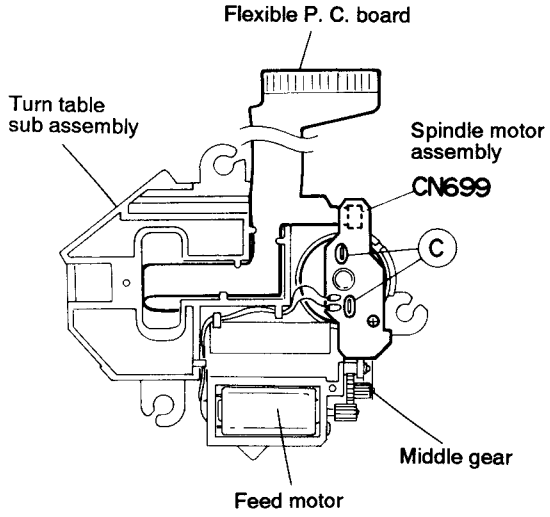


Fig. 5-43

■ Removing the Actuator Unit

1. Remove the top cover.
2. Remove the CD tray together with the tray guide (R).
3. Remove the four screws ⑨ retaining the actuator unit (See Fig. 5-44).
4. Remove the two screws ⑩ retaining the tray & cam drive motor (See Fig. 5-44).
5. Hang the two belts removed from the tray and cam drive motor again to motor as shown in Fig. 5-44.
6. While holding down the section [G] with a finger, remove the two pawls [H] retaining the actuator unit.

□ Method of pulling out the CD tray in case the CD driver mechanism has been dismounted under [PLAY] mode

1. Press forward the hock slider assembly until it stops as shown in Fig. 5-45.
2. Move the slide cam (L) on the left side of the CD driver mechanism assembly in the arrow A direction and position it to [A]. Then, the CD driver mechanism will be kept at the lowered position (See Fig. 5-27).

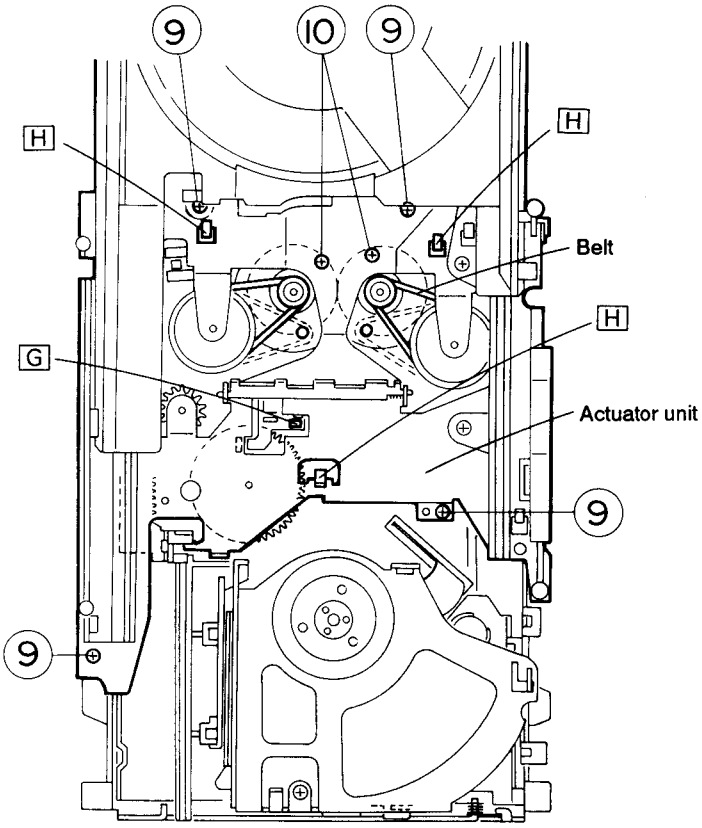


Fig. 5-44

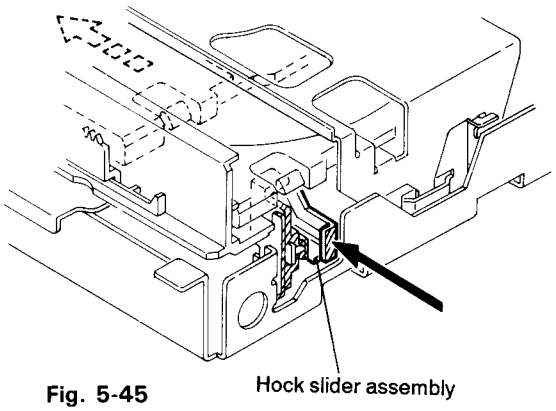


Fig. 5-45

6.Main Adjustment

■ Measurement Instruments Required for Adjustment

1. Low frequency oscillator
   This oscillator should have a capacity to output 0dBs to 600 Ω at an oscillation frequency of 50Hz~20kHz.
2. Attenuator impedance: 600 Ω
3. Electronic voltmeter
4. Distortion meter
5. Frequency counter
6. Wow flutter
7. Test tape
   VTT 712: Tape speed and running unevenness (3kHz)
   VTT 724: Reference level (1kHz)
   TMT 7036: Head angle (10kHz), playback frequency characteristics (1kHz) and dubbing frequency characteristics (63, 1 and 10kHz)
   Because of frequency - mixed tape with 63, 1, 10 and 14kHz (250nWb/m - 24dB), use this tape together with a filter.
8. Blank tape
   TAPE Ⅰ: AC-225
   TAPE Ⅱ: AC-514
9. Torque gauge: For play and back tension
   FWD (TW2111A), REV (TW2121A) and
   FF/REW (TW2231A)
10. Extension cord for adjustment ····· EXTRCQW3-KIT

■ Measurement Conditions

Power supply voltage ····· AC 230V (50Hz)
Reference output ····· Speaker: 0.775V/3 Ω
Headphone: 0.245V/32 Ω
Reference frequency and input level · 1kHz, AUX: -8dBs
Input for confirming recording and playback characteristics ····· AUX:-28dBs
Measurement output terminal ····· Speaker CN192
※ Load resistance ····· 3 Ω

● Radio input signal

AM modulation frequency ····· 400Hz
Modulation factor ····· 30%
FM modulation frequency ····· 400Hz
Frequency displacement ····· 22.5kHz

● Tuner section

Voltage applied to tuner ····· +B: DC 5.7V
VT: DC 12V
Reference measurement output ····· 26.1mV (0.28V)/3 Ω
Input positions ····· AM: Standard loop antenna
FM: TP1 (hot) and TP2 (GND)

● Standard measurement positions of volume

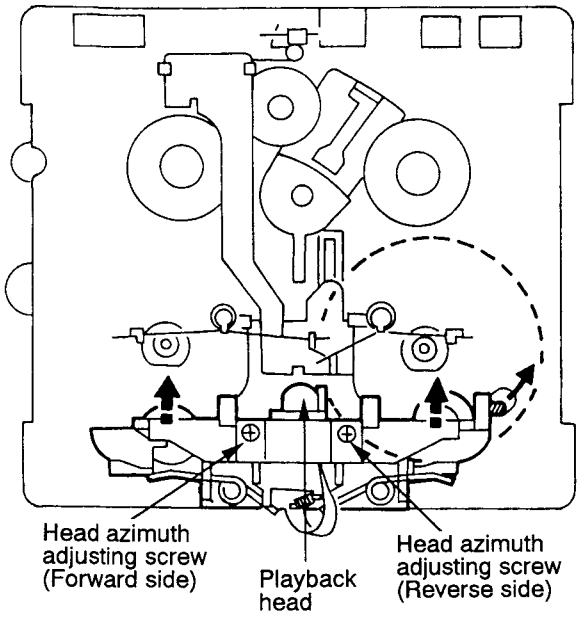
Sound mode ····· Flat position
Super-bas ····· Off
Up and down adjustment of volume ····· VOL. 23

Precautions for Measurement

1. Apply 30pF and 33kΩ to the IF sweeper output side and 0.082μF and 100kΩ in series to the sweeper input side.
2. The IF sweeper output level should be made as low as possible within the adjustable range.
3. Since the IF sweeper is a fixed device, there is no need to adjust this sweeper.
4. Since a ceramic oscillator is used, there is no need to perform any MPX adjustment.
5. Since a fixed coil is used, there is no need to adjust the FM tracking.
6. The input and output earth systems are separated. In case of simultaneously measuring the voltage in both of the input and output systems with an electronic voltmeter for two channels, therefore, the earth should be connected particularly carefully.
7. In the case of BTL connection amp., the minus terminal of speaker is not for earthing. Therefore, be sure not to connect any other earth terminal to this terminal. This system is of an OTL system.
8. For connecting a dummy resistor when measuring the output, use the wire with a greater core size.
9. Whenever any mixed tape is used, use the band pass filter (DV-12).

《Arrangement of Adjusting Positions》

● **Cassette mechanism section (Mechanism A section)**



● **Cassette mechanism section (Back side)**

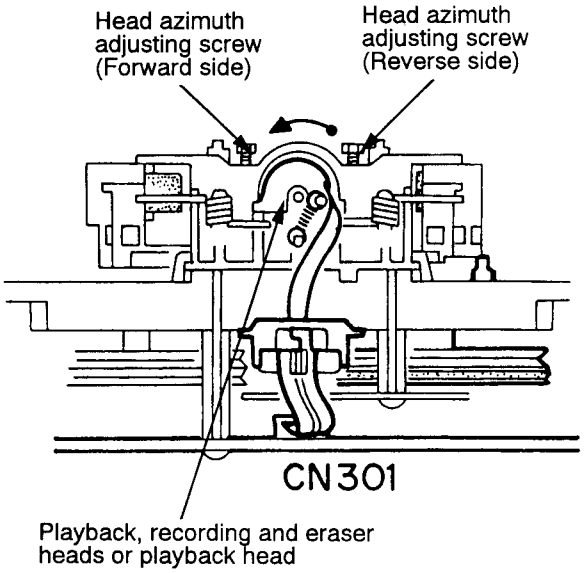

Head azimuth adjusting screw (Forward side)
Head azimuth adjusting screw (Reverse side)
CN301
Playback, recording and eraser heads or playback head

Fig.6-1

■ **Cassette Mechanism Unit Section**

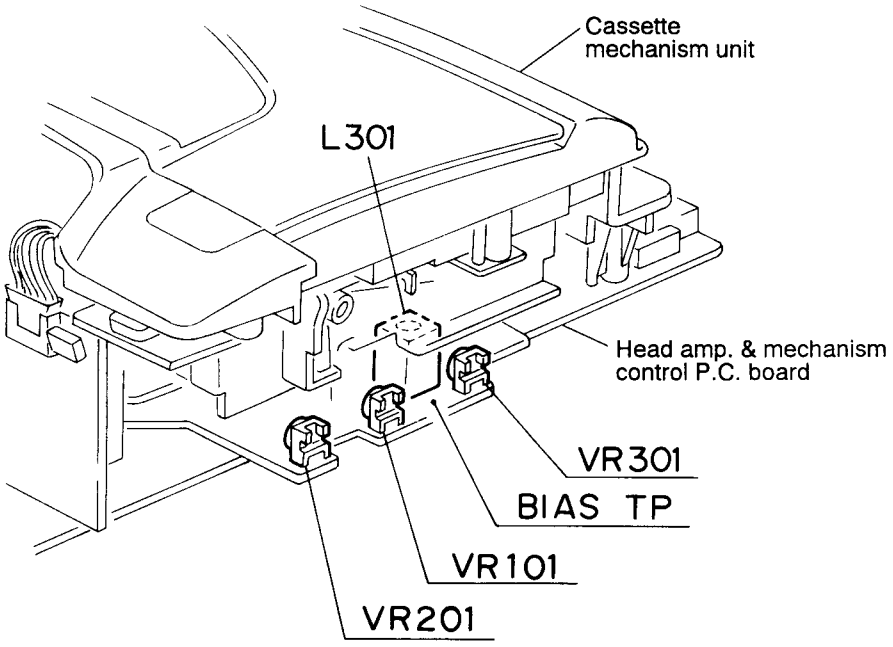


Fig.6-2

■ Tape Recorder Section

Items	Measurement conditions	Measurement method	Standard values	Adjusting positions
Confirmation of head angle	Test tape : TMT7036 (10kHz) Measurement output terminal : Speaker terminal Speaker R (Load resistance: 3 Ω) : Headphone terminal	① Play back the test tape TMT7036 (10kHz). ② With the playback mechanism or recording & playback mechanism, adjust the head azimuth screw so that the forward and reverse output levels become maximum. After adjustment, lock the head azimuth at least by half a turn. ③ In either case, this adjustment should be performed in both the forward and reverse directions with the head azimuth screw.	Maximum output	Adjust the head azimuth screw only when the head has been changed.
Confirmation of tape speed	Test tape : VTT712 (3kHz) or TMT7036 (3kHz) Measurement output terminal : Headphone terminal	《Constant speed》 Adjust VR301 so that the frequency counter reading becomes 3,010Hz ± 15Hz when playing back the test tape VTT712 (3kHz) with the playback mechanism or playback and recording mechanism after ending forward winding of the tape.	Tape speed of decks (A and B) : 3,010Hz ± 15Hz	VR301

■ Reference Values for Confirmation Items

Items	Measurement conditions	Measurement method	Standard values	Remarks
Double tape speed	Test tape : TMT7036 (10kHz) Measurement output terminal : Speaker terminal Speaker R (Load resistance: 3 Ω) measurement output terminal : Headphone terminal	① After setting to the double speed motor, confirm that the frequency counter reading becomes 4,800 +400/-300Hz when the test tape VTT712 (3kHz) has been played back with the playback mechanism.	4,800 +400/-300Hz	Playback mechanism side
Difference between the forward and reverse speed	Test tape : TMT7036 (10kHz) Measurement output terminal : Speaker terminal Speaker R (Load resistance: 3 Ω) measurement output terminal : Headphone terminal	When the test tape VTT712 (3kHz) has been played back with the playback mechanism or recording and playback mechanism at the beginning of forward winding, the frequency counter reading of the difference between both of the mechanisms should be 6.0Hz or less.	6.0Hz or less	Both the playback and recording & playback mechanisms
Difference between the playback mechanism and recording and playback mechanism speed	Test tape : TMT7036 (10kHz) Measurement output terminal : Speaker terminal Speaker R (Load resistance: 3 Ω) measurement output terminal : Headphone terminal	When the test tape VTT712 (3kHz) has been played back with the playback mechanism or recording and playback mechanism at the beginning of forward winding, the frequency counter reading of the difference between both of the mechanisms should be 6.0Hz or less.	6.0Hz or less	Both the playback and recording & playback mechanisms
Wow & flutter	Test tape : TMT7036 (10kHz) Measurement output terminal : Headphone terminal	When the test tape VTT712 (3kHz) has been played back with the playback mechanism or recording and playback mechanism at the beginning of forward winding, the frequency counter reading of wow & flutter should be 0.25% or less (WRMS).	0.25% or less (WRMS)	Both the playback and recording & playback mechanisms

■ Electrical Performance

Items	Measurement conditions	Measurement method	Standard values	Adjusting positions
Adjustment of recording bias current (Reference value)	• Mode: Forward or reverse mode • Recording mode • Test tape : AC-514 and AC-225 Measurement output terminal : Both recording and headphone terminals	① With the recording and playback mechanism, load the test tapes (AC-514 to TYP Ⅱ and AC-225 to TYP Ⅰ), and set the mechanism to the recording and pausing conditions in advance. ② After connecting 100 Ω in series to the recorder head, measure the bias current with a valve voltmeter at both of the terminals. ③ After resetting the [PAUSE] mode, start recording. At this time, adjust VR101 for LcH and VR201 for RcH so that the recording bias current values become 4.0 μA (TYP Ⅰ) and 4.20 μA (TYP Ⅱ).	AC-225 : 4.20 μA AC-514 : 4.0 μA	LcH :VR101 RcH :VR201
Adjustment of recording and playback frequency characteristics	Reference frequency : 1kHz and 10kHz (REF.: -20DB) Test tape : TYP Ⅱ: AC-514 Measurement input terminal : OSC IN	① With the recording and playback mechanism, load the test tape (AC-514 to TYP Ⅱ), and set the mechanism to the recording and pausing conditions in advance. ② While repetitively inputting the reference frequency signal of 1kHz and 10kHz from OSC IN, record and play back the test tape. ③ While recording and playing back the test tape in TYP Ⅱ, adjust VR101 for LcH and VR 201 for RcH so that the output deviation between 1kHz and 10kHz becomes -1dB ± 2dB.	Output deviation between 1kHz and 10kHz : -1dB ± 2dB	LcH :VR101 RcH :VR201

■ Reference Values for Electrical Function Confirmation Items

Items	Measurement conditions	Measurement method	Standard values	Remarks
Recording bias frequency	• Recording and playback side forward or reverse • Test tape : TYP Ⅱ: AC-514 • Measurement terminal: BIAS TP on P.C. board	① While changing over to and from BIAS 1 and 2, confirm that the frequency is changed. ② With the recording and playback mechanism, load the test tape (AC-514 to TYP Ⅱ), and set the mechanism to the recording and pausing conditions in advance. ③ Confirm that the BIAS TP frequency on the P.C. board is 100kHz ± 6kHz.	100kHz ± 6kHz	
Eraser current (Reference value)	• Recording and playback side forward or reverse • Recording mode • Test tape : AC-514 and AC-225 Measurement terminal: Both of the eraser head	① With the recording and playback mechanism, load the test tapes (AC-514 to TYP Ⅱ and AC-225 to TYP Ⅰ), and set the mechanism to the recording and pausing conditions in advance. ② After setting to the recording conditions, connect 1W in series to the eraser head on the recording and playback mechanism side, and measure the eraser current from both of the eraser terminals.	TYP Ⅱ : 120mA TYP Ⅰ : 75mA	

■ Electrical Characteristics of Tuner

Items	Measurement conditions	Measurement method	Standard values	Adjusting
Adjustment of AM RF tracking	• Band selection to: AM • Input position: Standard loop antenna	① Receive 520kHz (preset memory P1) from SSG through the standard loop antenna. ② Receive 1,650kHz (preset memory P2) from SSG through the standard loop antenna. Adjust L4 so that the output at this time becomes maximum.Maximum output ③ In case the voltage at the test point TP9 exceeds 5.0V, adjust L4 so that the voltage becomes 5.0 ± 0.1V. In case the voltage is 5.0V or less, be sure not to perform any adjustment. ④ Receive 600kHz (preset memory P3) from SSG through the standard loop antenna. Adjust L3 so that the output at this time becomes maximum. ⑤ Receive 1,400kHz (preset memory P4) from SSG through the standard loop antenna. Adjust TC2 so that the output at this time becomes maximum. ⑥ Repeat Steps ④ and ⑤ so that the output becomes maximum.	Maximum output	L4 L3 TC2

■ Precautions for Adjustment

Items	Precautions
• Adjustment of AM/FM IF • Adjustment of FM MPX • Adjustment of FM RF tracking	Since a fixed IF device is used, there is no need to adjust AM/FM IF. Since a ceramic oscillator is used, there is no need to perform this adjustment. Since a fixed coil is used, there is no need to adjust this tracking.

Preset No.	①	②	③	④
Receiving frequency (kHz)	520	1650	600	1400

■ Arrangement of the Adjusting & Testpoint Positions on the Tuner P.C. Board

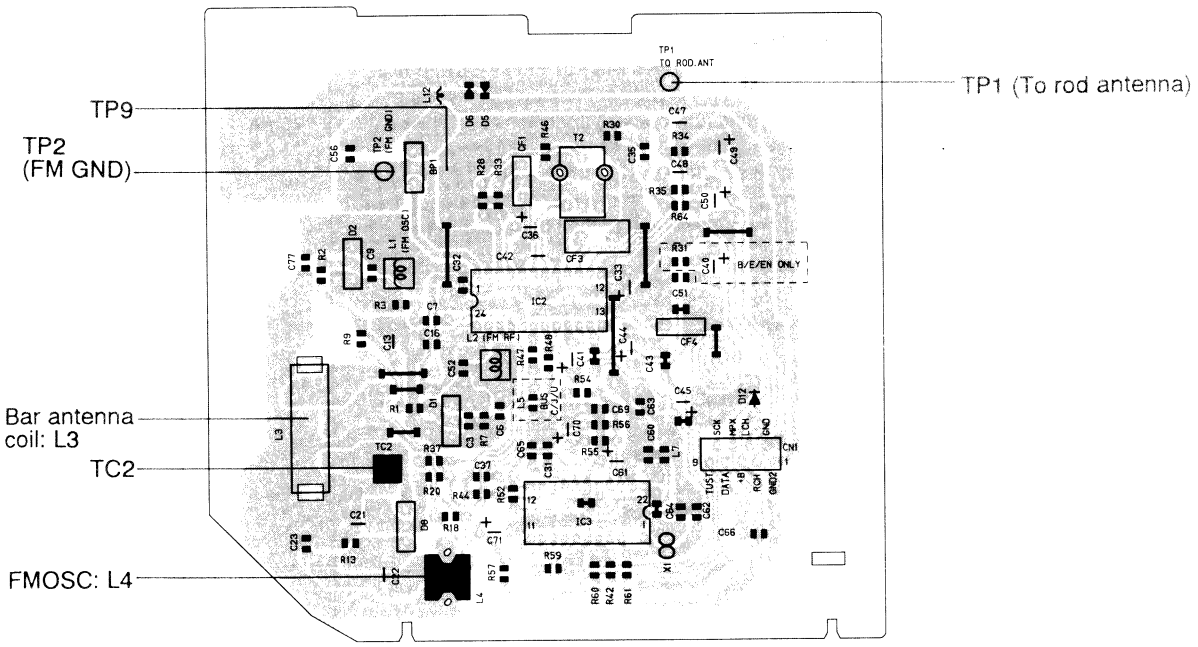


Fig.6-3

7.Out Line of Main IC

■ IC901: MN171603(System Microcomputer) Terminal Function Table

Pin No.	Symbol	I/O	Function
1	A REEL	I	Tape A mechanism running detection
2	B REEL	I	Tape B mechanism running detection
3	AVss		
4	BATT	I	Battery voltage detection
5	TAPE 1	I	Tape leaf switch 1
6	TAPE 2	I	Tape leaf switch 2
7	TAPE 3	I	Tape leaf switch 3
8	KEY 1	I	Body contact switch 1
9	KEY 2	I	Body contact switch 2
10	KEY 3	I	Body contact switch 3
11	NC	I	Not connected
12	AVdd		
13	VLC1		LCD bias 1
14	VLC2		LCD bias 2
15	VLC3		LCD bias 3
16	COM3	O	LCD common 3
17	COM2	O	LCD common 2
18	COM1	O	LCD common 1
19	COM0	O	LCD common 0
20	SEG0	O	LCD segment 0
21	SEG1	O	LCD segment 1
22	SEG2	O	LCD segment 2
23	SEG3	O	LCD segment 3
24	SEG4	O	LCD segment 4
25	SEG5	O	LCD segment 5
26	SEG6	O	LCD segment 6
27	SEG7	O	LCD segment 7
28	SEG8	O	LCD segment 8
29	SEG9	O	LCD segment 9
30	SEG10	O	LCD segment 10
31	SEG11	O	LCD segment 11
32	SEG12	O	LCD segment 12
33	SEG13	O	LCD segment 13
34	SEG14	O	LCD segment 14
35	SEG15	O	LCD segment 15
36	SEG16	O	LCD segment 16
37	SEG17	O	LCD segment 17
38	SEG18	O	LCD segment 18
39	SEG19	O	LCD segment 19
40	SEG20	O	LCD segment 20
41	SEG21	O	LCD segment 21
42	SEG22	O	LCD segment 22

Pin No.	Symbol	I/O	Function
43	SEG23	O	LCD segment 23
44	BASS	O	BASS control (PWM)
45	TRE	O	TREBLW control (PWM)
46	VOL	O	VOLUME control (PWM)
47	LCDCTL	O	LCD control
48	TAST	O	TAPE control strobe
49	TADATA	O	TAPE control data
50	TACK	O	TAPE control clock
51	PBMUTE	O	TAPE playback muting
52	$\overline{\text{PIN}}$	I	POWER key
53	$\overline{\text{AC}}$/DC	I	Power supply judgment (L: AC; H: DC)
54	$\overline{\text{SAFETY}}$	I	Trouble detection
55	$\overline{\text{MPX}}$	I	STEREO indicator (L: STEREO)
56	PERIOD	O	TUNER PLL strobe
57	$\overline{\text{F. AUX}}$	O	Function AUX ON/OFF
58	F. CD	O	Function CD ON/OFF
59	F. TUNER	O	Function TUNER ON/OFF
60	$\overline{\text{SMUTE}}$	O	System muting ON/OFF
61	POUT	O	Power ON/OFF
62	AHB	O	Superbass ON/OFF
63	CDST	O	CD microcomputer strobe
64	$\overline{\text{CDRESET}}$	O	CD microcomputer reset
65	+ BCTL	O	Power supply control during DC action
66	XKILL	O	Forced stop of sub-clock
67	BEAT	O	Min clock shift
68	$\overline{\text{RESET}}$	I	System reset
69	X1	I	32.768kHz sub-clock
70	X2	O	
71	Vss	–	
72	OSC2	O	4.19MHz main clock
73	OSC1	I	
74	Vdd	–	
75	CD SAFETY	I	Detection of trouble in CD and tuner
76	CDCK	O	CD microcomputer clock
77	CD DATAI	I	CD microcomputer data
78	CD DATAO	O	CD microcomputer data
79	BUP	I	Backup decision
80	TUCK	O	TUNER control clock
81	TU DATAI	I	TUNER control data
82	TU DATAO	O	TUNER control data
83	CDREQ	O	CD microcomputer request
84	REM	O	Remote control

■ IC681: MN150837 J8P(CD Microcomputer) Terminal Function Table

Pin No.	Symbol	I/O	Function
1	$\overline{\text{RESET}}$	I/O	RESET input of CD microcomputer. This input is controlled by the main microcomputer.
2	NC		Not connected.
3	WATCH 5V	I	DSP and RF power supply monitoring input
4	$\overline{\text{DOOR OPEN}}$	I	[DOOR OPEN] switch input of charger mechanism
5	$\overline{\text{DOOR CLOSE}}$	I	[DOOR CLOSE] switch input of charger mechanism
6	$\overline{\text{PHOTO SW}}$	I	Phote interruption switch input of charger mechanism
7	NC		Not connected.
8	TRAY+	O	[+] input of tray motor of charger mechanism
9	TRAY −	O	[−] input of tray motor of charger mechanism
10	CAM+	O	[+] input of cam motor of charger mechanism
11	CAM −	O	[−] input of cam motor of charger mechanism
12	SUBQ	I	Sub-code "Q" data input terminal coming from DSP (IC651: MN35510)
13	NC		Not connected.
14	$\overline{\text{INITAL SW}}$	I	Initial switch input of charger mechanism
15	$\overline{\text{SUBSW}}$	I	Sub-switch input of charger mechaniam
16	$\overline{\text{RESET SW}}$	I	Reset switch input of CD mechanism. ON at L.
17	NC		Not connected
18	NC		Not connected
19	NC		Not connected
20	NC		Not connected
21	REQ	O	REQ output terminal to main microcomputer
22	BLKCK	I	Sub-code block clock signal input terminal coming from DSP (IC651: MN35510)

Pin No.	Symbol	I/O	Function
23	ST	I	ST input termimal from main microcomputer
24	DATA	I	Serial data input/output terminals from main microcomputer
25	CK	I	Clock input form main microcomputer
26	STATS	I	Status signal input terminal coming from DSP (IC651: MN35510)
27	$\overline{\text{TLOCK}}$	I	Tracking servo leading-in signal input terminal coming from DSP (IC651: MN35510)
28	$\overline{\text{FLOCK}}$	I	Focus servo leading-in signal input terminal coming from DSP (IC651: MN35510)
29	SENSE	I	Sensor signal input terminal coming from DSP (IC651: MN35510)
30	NC		Not connected.
31	SQCK	O	External clock output terminal for sub-code "Q" resistor going to DSP (IC651: MN35510)
32	MLD	O	Microcomputer command load signal output terminal going to DSP (IC651: MN35510)
33	MDATA	O	Microcomputer command data output terminal going to DSP (IC651: MN35510)
34	MCLK	O	Microcomputer command clock signal output terminal going to DSP (IC651: MN35510)
35	$\overline{\text{RST}}$	O	Reset output terminal going to DSP (IC651: MN35510)
36	NC		Not connected.
37	NC		Not connected.
38	$\overline{\text{DRIVER MUTE}}$	O	Spindle and fade motor muting terminal
39	Vss		Gland
40	QSC2	O	System clock, 4.19MHz
41	QSC1	I	System clock, 4.19MHz
42	Vdd		5.0V power supply
43	X1		Gland
44	NC		Not conncted

■ IC691,IC692 : LB1641(Cam & Tray Moter Driver)

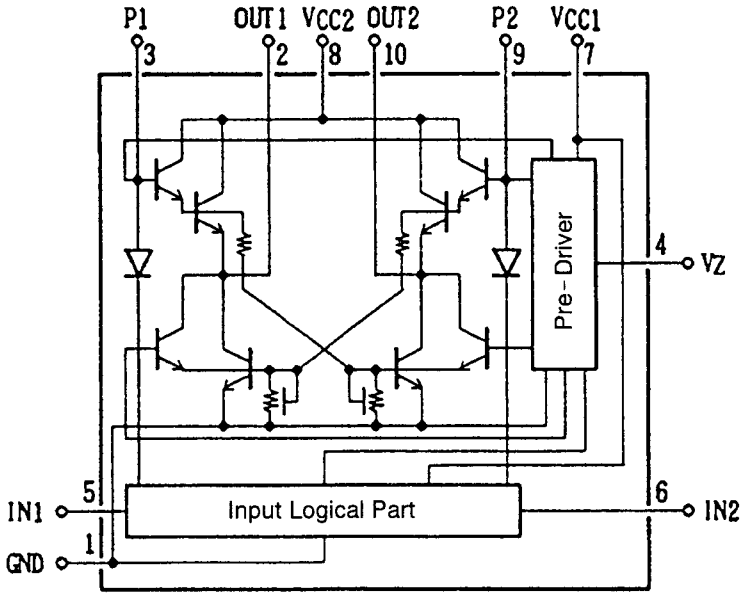
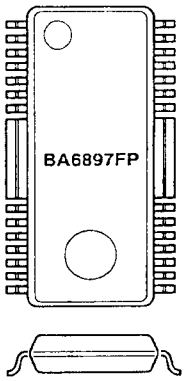


Fig.7-1

■ IC641: BA6897FP
Focus & Spindle Feed
Tracking BTL Driver



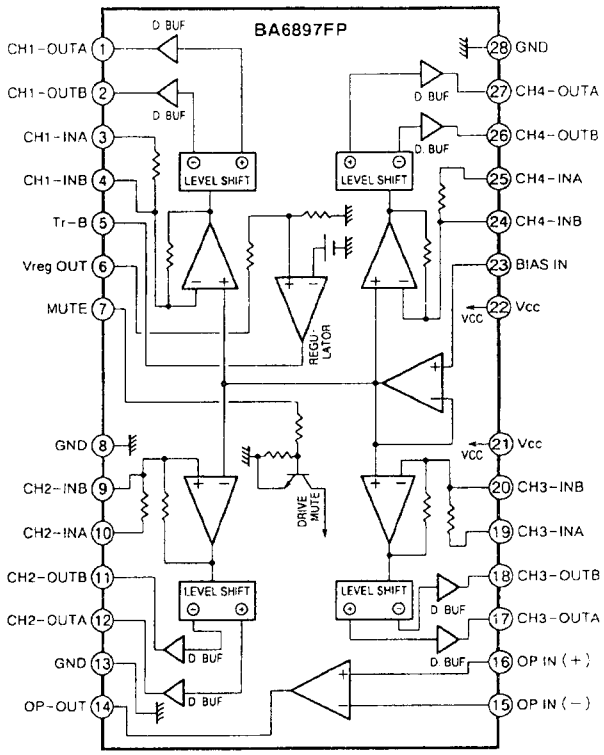


Fig.7-2

■ IC601: AN8806SB (RF & Servo)

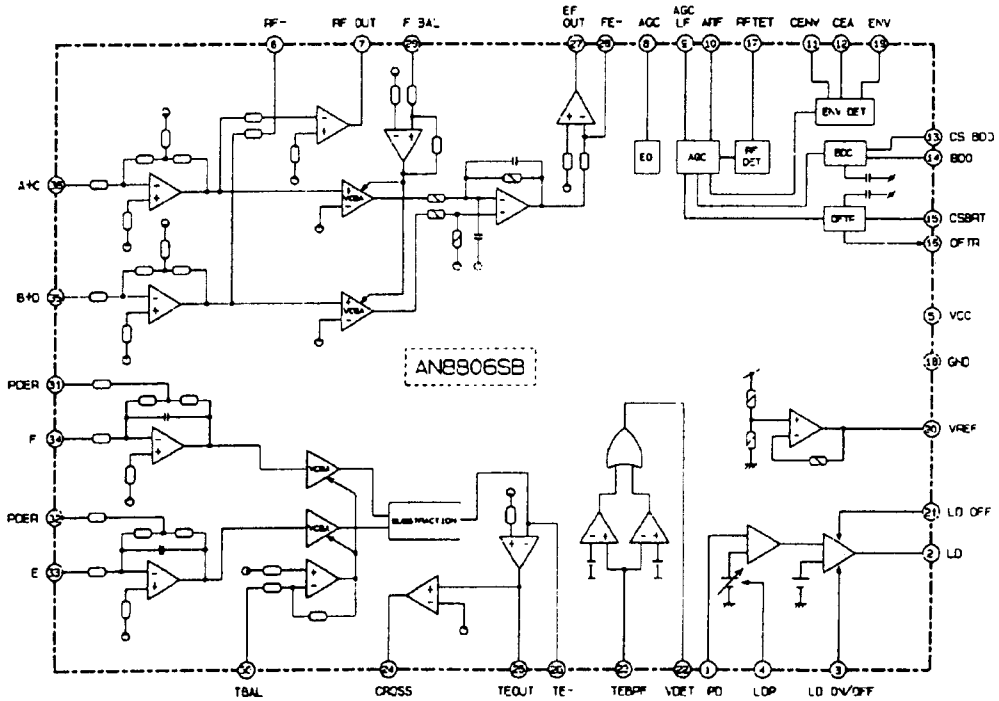


Fig.7-3

■ IC651: MN35510 (Degital Servo & Processor)

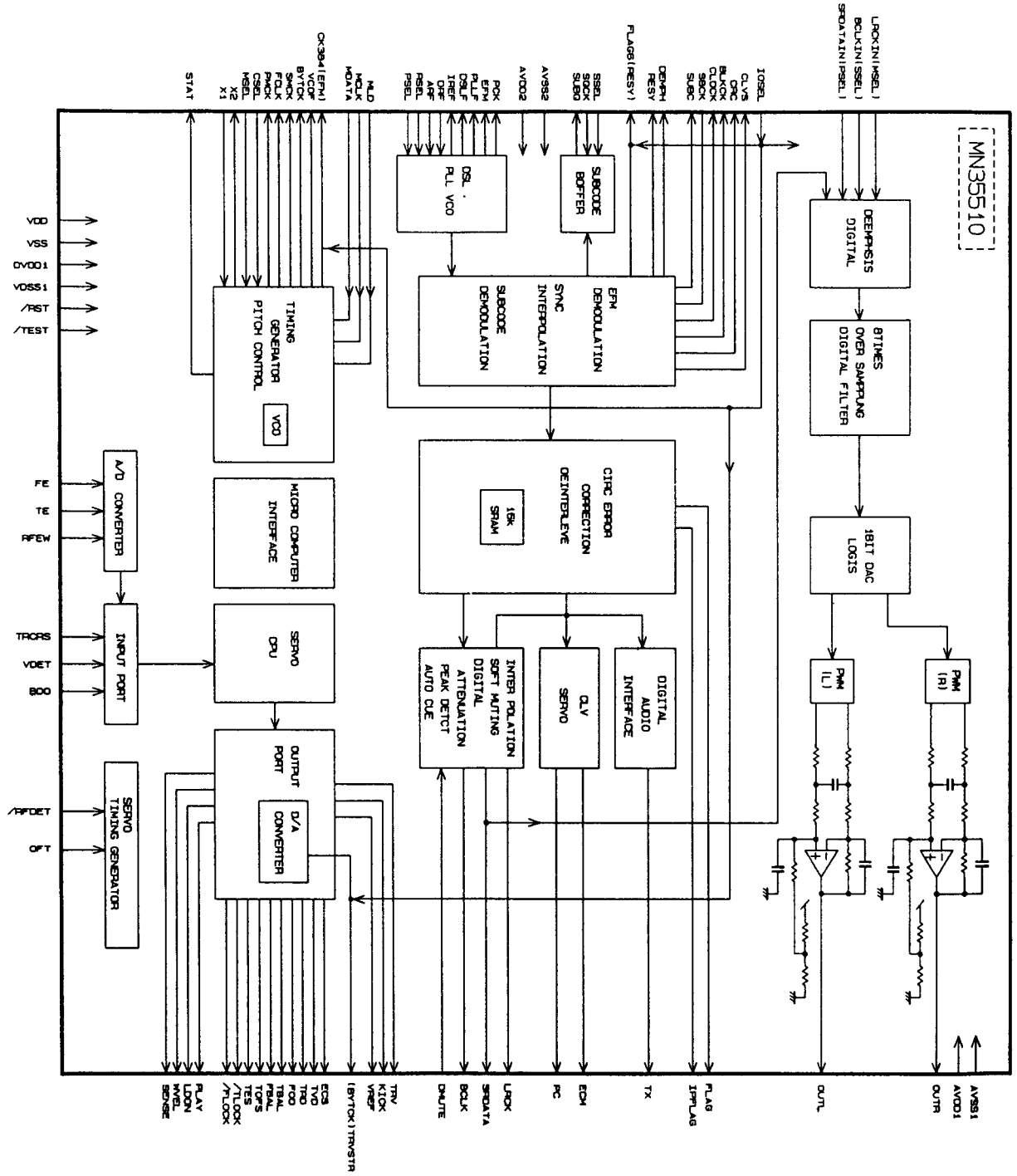


Fig.7-4

■ IC501: BH3852S (Electrical Volume)

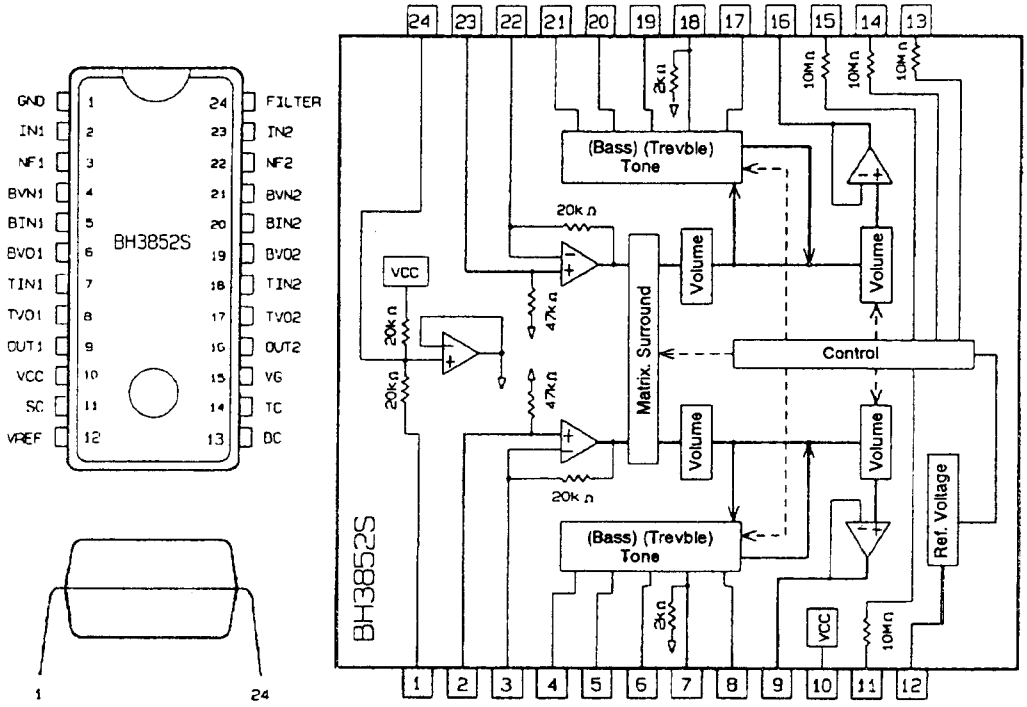


Fig.7-5

■ IC302: AN7345K (Playback & Recording Amplifier)

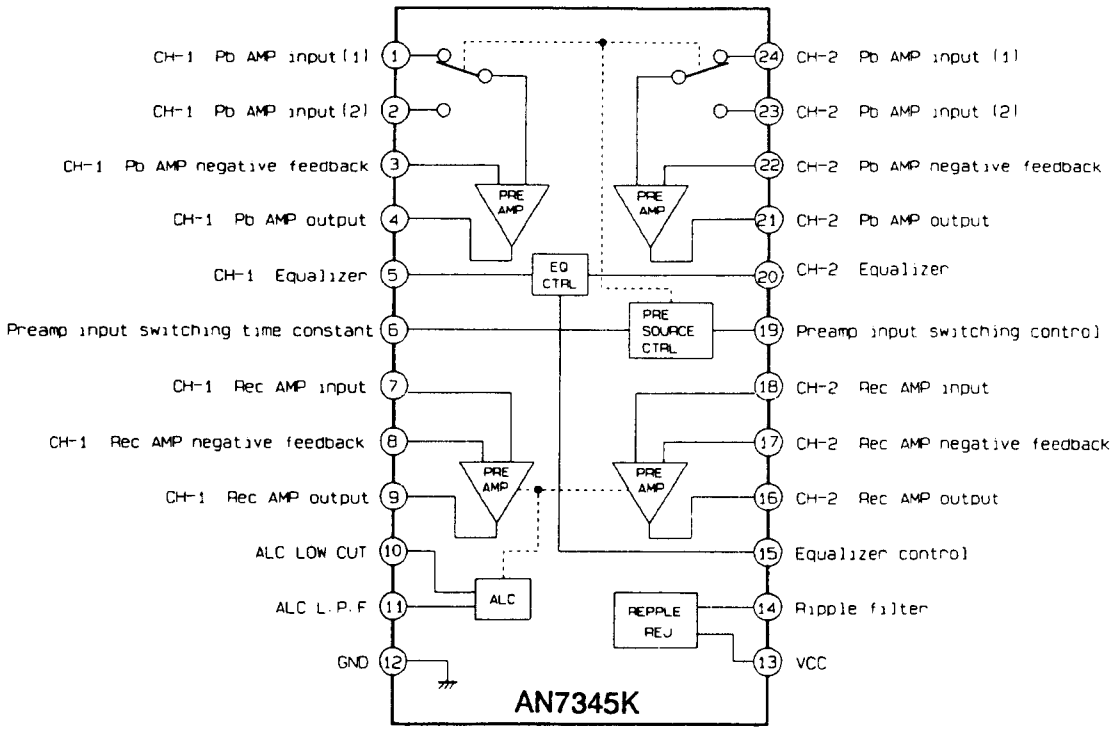
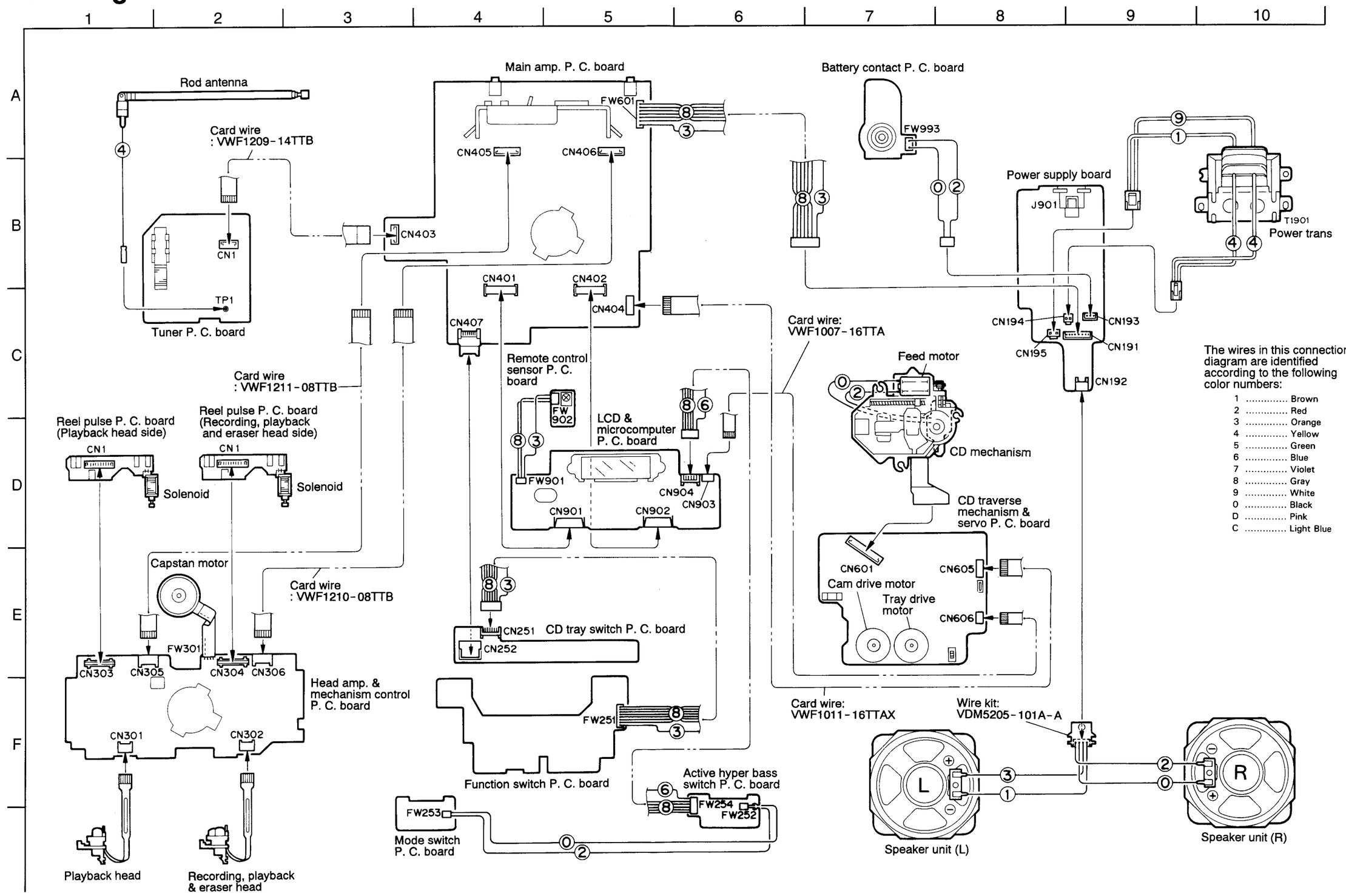


Fig.7-6

-MEMO-

8.Wiring Connections



The wires in this connection diagram are identified according to the following color numbers:

1	Brown
2	Red
3	Orange
4	Yellow
5	Green
6	Blue
7	Violet
8	Gray
9	White
0	Black
D	Pink
C	Light Blue

Fig.8-1

9.Analytic Drawing and Parts List

■ Enclosure Assembly Section : Block No. M1

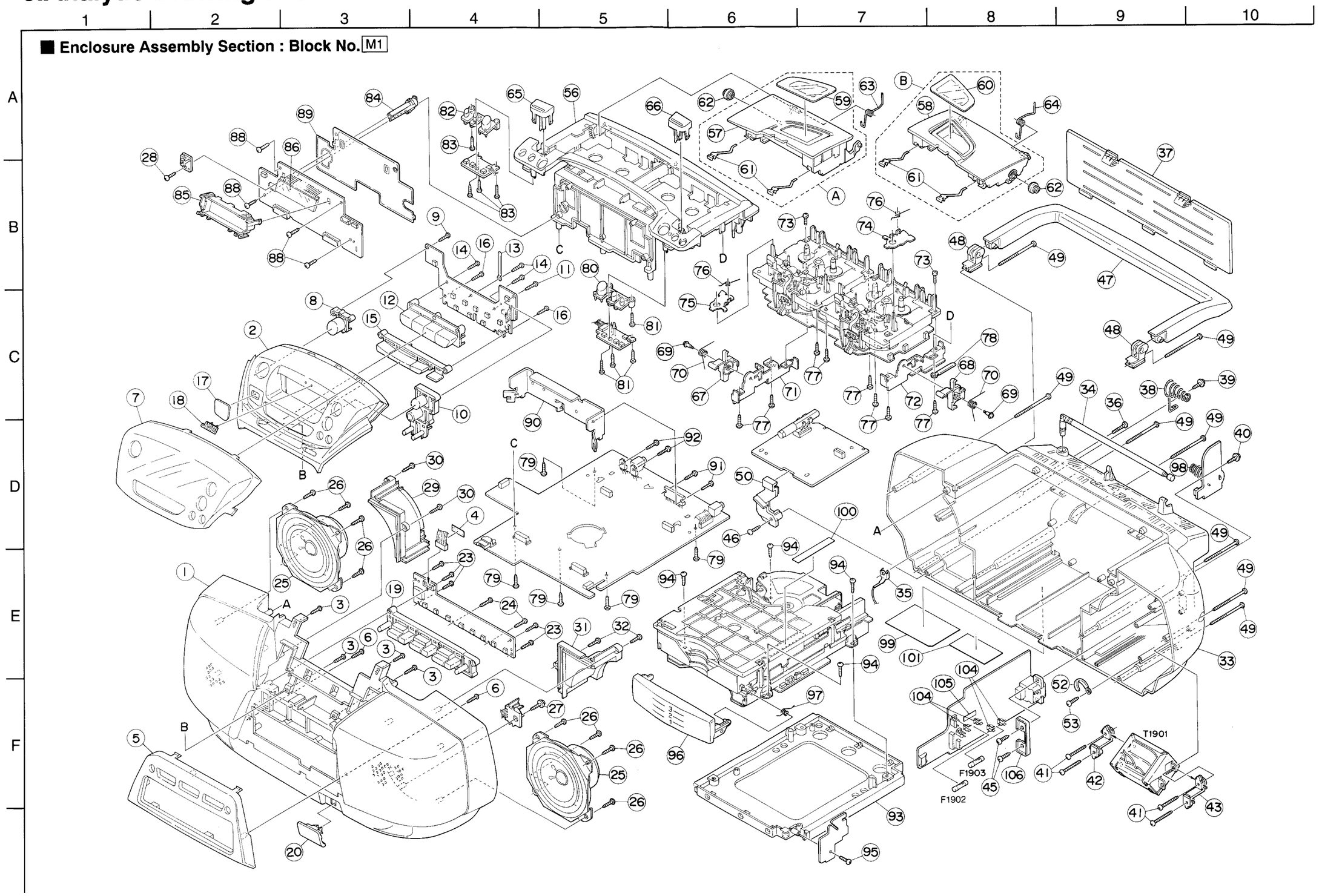


Fig.9-1

■ Enclosure Assembly Parts List

BLOCK NO. M1MM□□□

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	A	ZCRCQC7K-CBA	CASSETTE DOOR A	NO.57,59,61	1		
	B	ZCRCQC7K-CBB	CASSETTE DOOR A	NO.58,60,61	1		
	1	VJG1454-00B	FRONT CABI ASSY		1		
	2	VJD1215-002	FRONT COVER(A)		1		
	3	SBSF2610Z	SCREW		4		
	4	VYSA1R4-056	SPACER		1		
	5	VJD2481-002	FRONT COVER(B)		1		
	6	SBSF2610Z	SCREW		2		
	7	VJK1109-002	ALC LENS		1		
	8	VXP5342-001	POWER BUTTON		1		
	9	SBSF2610Z	SCREW		1		
	10	VXP3858-001	VOLUM BUTTON		1		
	11	SBSF2610Z	SCREW		1		
	12	VXP3855-002	FUNCTION BUTTON		1		
	13	VKZ4001-009	WIRE HOLDER		1		
	14	SBSF2610Z	SCREW		3		
	15	VXP3854-001	MULTI CONTROL		1		
	16	SBSF2610Z	SCREW		2		
	17	VJD5497-004	REMOCON FILTER		1		
	18	PQ45130-1-1	JVC MARK		1		
	19	VXP3830-00A	CD BUTTON ASS'Y		1		
	20	VJE3028-001	D.OUT COVER		1		
	23	SBSF2610Z	SCREW		5		
	24	SDSF2614Z	SCREW		2		
	25	VGS1001-014	SPEAKER		2		
	26	SBSF3010Z	SCREW		8		
	27	E65923-004	TAPPING SCREW		1		
	28	SBSF3010Z	SCREW		1		
	29	VYH3963-001	CAP (L)		1		
	30	SBSF3010Z	SCREW		2		
	31	VYH3963-002	CAP (R)		1		
	32	SBSF3010Z	SCREW		2		
	33	VJG1456-002	REAR CABINET		1		
⚠	34	FMJA3001-00A(D)	ROD ANT ASS'Y		1		
	35	VYH5012-005SS	TERMINAL LUG		1		
	36	SDSP3012N	SCREW		1		
	37	VJD2482-001	BATTERY COVER		1		
	38	VYH5657-002	BATTERY SPRING		1		
	39	E65923-004	TAPPING SCREW		1		
	40	E65923-004	TAPPING SCREW		1		
	41	SBSF3020Z	SCREW		4		
	42	VYH8114-001	TRANS HOLDER(L)		1		
	43	VYH8114-002	TRANS HOLDER(R)		1		
	45	SBSF3012Z	SCREW		2		
	46	SBSF3010Z	SCREW		1		
	47	VJH2019-002UL	HANDLE		1		
	48	VYH7845-201	HANDLE SUPPORTE		2		
	49	SBSF3045Z	SCREW		8		
	50	VYH8162-001	TUNER HOLDER		1		
	52	VKZ4001-110	WIRE CLAMP		1		
	53	SBSF3010Z	SCREW		1		
	56	VJG1457-002	TOP COVER		1		
	57	VJT1058-001	CASSETTE DOOR(L		1		
	58	VJT1058-002	CASSETTE DOOR(R		1		
	59	VJT4237-001	DOOR LENS(L)		1		

BLOCK NO. M1MM

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	60	VJT4237-002	DOOR LENS(R)		1		
	61	VKY4180-001	CASSETTE SPRING		4		
	62	VYH7366-001MM	GEAR		2		
	63	VKW5267-001	DOOR SPRING (L)		1		
	64	VKW5277-001	DOOR SPRING (R)		1		
	65	VXP5344-001	EJECT BUTTON(L)		1		
	66	VXP5344-002	EJECT BUTTON(R)		1		
	67	VYH8146-001	EJECT ARM(L)		1		
	68	VYH8146-002	EJECT ARM(R)		1		
	69	VKZ4341-004	SPECIAL SCREW		2		
	70	VKW3006-230	TORSION SPRING		2		
	71	VYH3964-001	SIDE BRACKET(L)		1		
	72	VYH3965-001	SIDE BRACKET(R)		1		
	73	SDST3008Z	SCREW		2		
	74	VKL7850-002	EJECT SAFTY(R)		1		
	75	VKL7851-002	EJECT SAFTY(L)		1		
	76	VKW5258-002	TORSION SPRING		2		
	77	SBSF3012Z	SCREW		8		
	78	VKZ4001-110	WIRE CLAMP		1		
	79	SBSF3010Z	SCREW		5		
	80	VXP3832-001	SOUND BUTTON		1		
	81	SBSF2608Z	SCREW		4		
	82	VXP3833-001	DECK BUTTON		1		
	83	SBSF2608Z	SCREW		4		
	84	VYH8143-001	BOSS		1		
	85	VYH3966-001	L.C.D.HOLDER		1		
	86	VGL1218-001	LCD		1		
	88	SBSF3010Z	SCREW		4		
	89	VMA4712-001	SHIELD		1		
	90	VYH3967-001	HEAT SINK		1		
	91	SBSF3010Z	SCREW		2		
	92	SBSF3010Z	SCREW		2		
	93	VYH1262-001	MECHA CHASSIS		1		
	94	SBSF3010Z	SCREW		4		
	95	SBSF3010Z	SCREW		1		
	96	VJT3389-001	FITTING		1		
	97	VKW5287-002	FITTING SPRING		1		
	98	VYH5483-001	SPRING		1		
	99	VYN5206-M002T	NAME PLATE		1	B	
		VYN5206-M008T	NAME PLATE		1	G	
		VYN5206-M005T	NAME PLATE		1	E,EN	
	100	E406709-001	LASER CAUTION		1		
	101	E70891-001	CLASS 1 LABEL		1		
⚠	104	EMG7331-003Z	FUSE CLIP	FOR F1902 F1903	4		
	105	VND4003-081	FUSE LABEL		1		
	106	VYH8165-001	AC HOLDER		1		
⚠	F1902	QMF51E2-2R5J1	FUSE	2ND	1		
⚠	F1903	QMF51E2-2R5J1	FUSE	BATT	1		
⚠	T1901	VTP57J2-12B	POWER TRANS		1		

■ Cassette Mechanism Section : Block No. M2

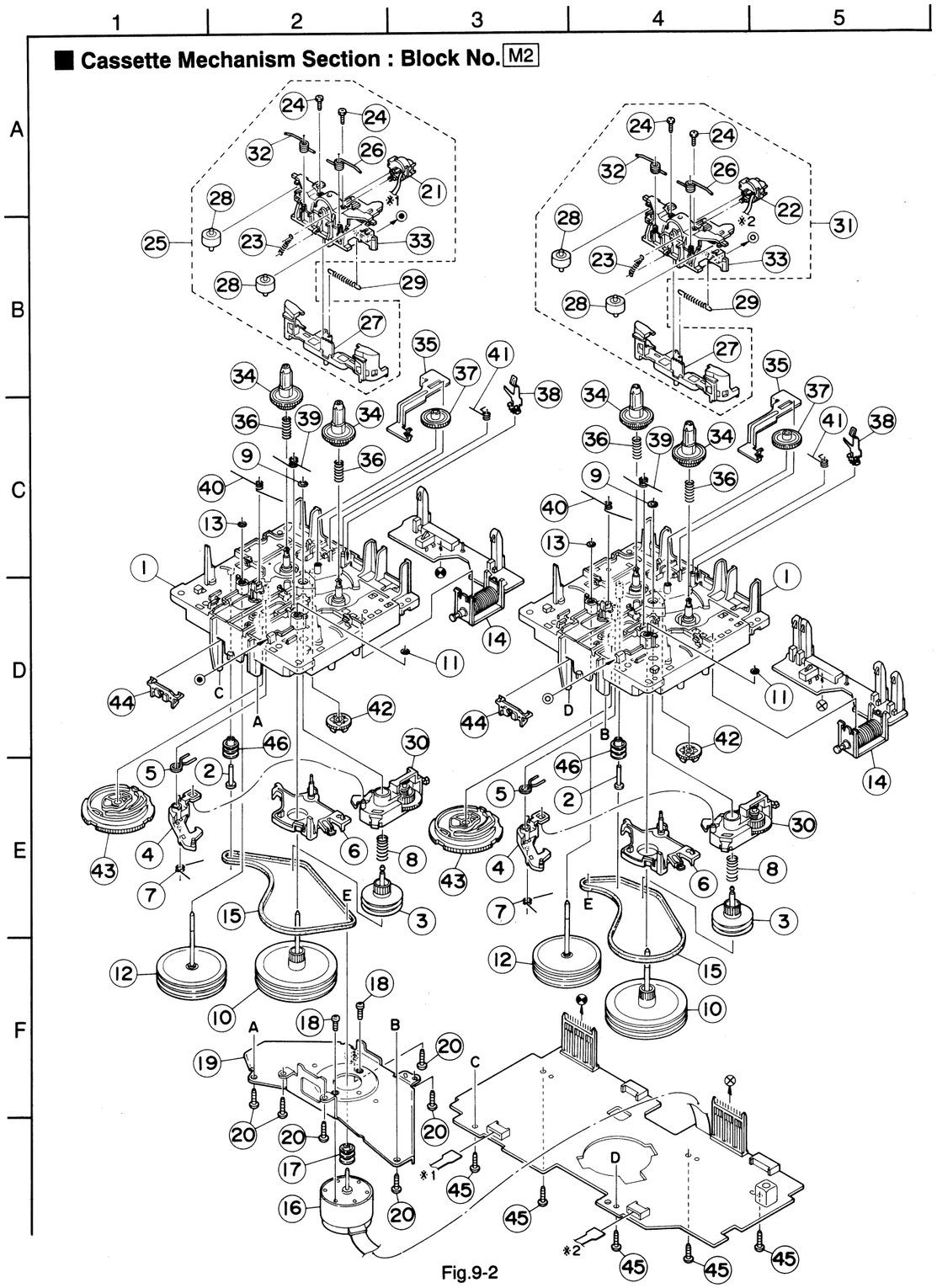


Fig.9-2

■ Cassette Mechanism Parts List

BLOCK NO. M2MM□□□

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	1	VKS1165-00B	CHASSIS B. ASSY		2		
	2	VKH5786-002	SHAFT		2		
	3	VKR3199-001	MAIN PULLEY		2		
	4	VKS3785-001MM	FR ARM		2		
	5	VKW5284-002	SWING SPRING		2		
	6	VKS2278-001	TRIGGER ARM		2		
	7	VKW5301-001	FR SPRING		2		
	8	VKW5266-001	ELEVATOR SPRING		2		
	9	WDM214025	WASHER		2		
	10	VKF3205-00B	F.WHEEL ASSY(R)		2		
	11	WDL183425	SLIT WASHER		2		
	12	VKF3207-00B	F.WHEEL ASSY(L)		2		
	13	WDL173525-6	SLIT WASHER		2		
	14	VGP2401-00A	DC SOLENOID ASS		2		
	15	VKB3000-174	CAPSTAN BELT(B)		2		
	16	MSI-5U2LWA	D.C.MOTOR ASS'Y		1		
	17	VKR4761-001	MOTOR PULLEY		1		
	18	SPSP2604Z	SCREW		2		
	19	VKM3907-001	JOINT BRACKET		1		
	20	SBSF2608Z	SCREW		6		
	21	VGH0424-037	HEAD ASS'Y	PB SIDE	1		
	22	VGH0425-544	HEAD ASS7Y	R/P&E SIDE	1		
	23	VKW5302-001	HEAD SPRING		2		
	24	VKZ4730-001	SPECIAL SCREW		4		
	25	VKS2279-00A	HEAD MOUNT ASSY		1		
	26	VKW5299-001	PIN.ROL.SP.(R)		2		
	27	VKS2277-004	DIRECTION LEVER		2		
	28	VKP4233-00A	PINCH ROL. ASSY		4		
	29	VKW5285-001	RETURN SPRING		2		
	30	VKS3786-00D	CLUTCH ASSY		2		
	31	VKS2275-00A	HEAD MOUNT ASSY		1		
	32	VKW5300-001	PIN.ROL.SP.(L)		2		
	33	VKS1167-001	HEAD MOUNT BASE		2		
	34	VKS2274-001	REEL GEAR		4		
	35	VKM3906-002	PLAY SW.LEVER		2		
	36	VKW5286-001	B.T. SPRING		4		
	37	VKS5559-001	PLAY IDLE GEAR		2		
	38	VKY3149-001	CASSETTE SP.		2		
	39	VKW5279-001	HEAD BASE SP(R)		2		
	40	VKW5280-001	HEAD BASE SP(L)		2		
	41	VKW5296-001	EARTH SPRING		2		
	42	VKS5560-001	FR IDLE GEAR		2		
	43	VKS1166-001	CONTROL CAM		2		
	44	VKS5577-001	FPC HOLDER		2		
	45	SBSF2608Z	TAPPING SCREW		5		
	46	VKR4749-002	IDLE PULLEY		2		

■ CD Traverse Mechanism Section : Block No. M3

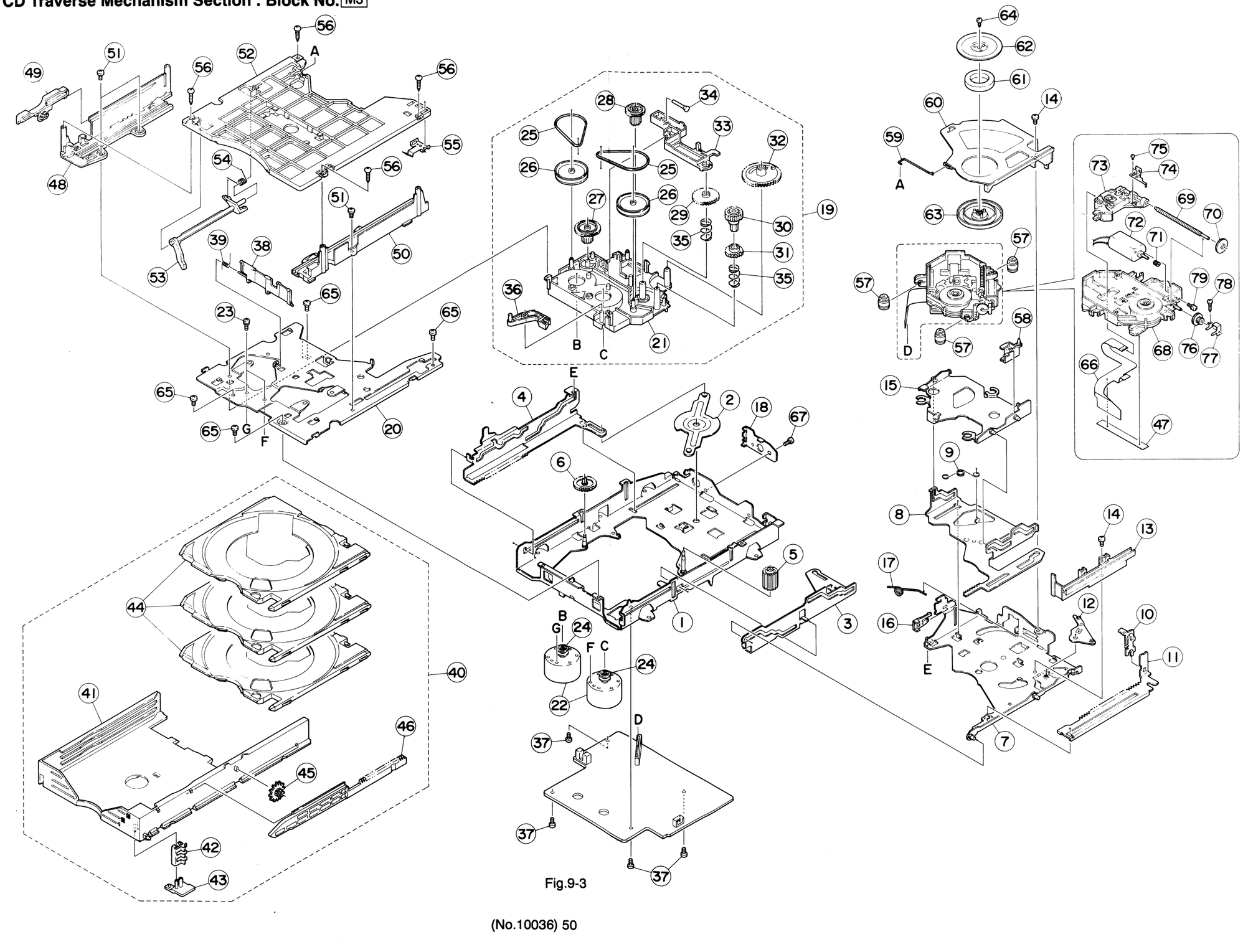


Fig.9-3

■ CD Traverse Mechanism Parts List

BLOCK NO. M3MM

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	1	VKM3893-00B	CHASSIS ASS'Y		1		
	2	VKL7846-00A	CON,ARM ASS'Y		1		
	3	VKL2763-001	SLIDE CAM(L)		1		
	4	VKL2764-001	SLIDE CAM(R)		1		
	5	VKS3765-001	HOOK GEAR		1		
	6	VKS3766-001	POSTION GEAR		1		
	7	VKM3895-00B	LIFTER BASE ASS		1		
	8	VKL2766-004	LIFTER		1		
	9	VKW5245-003	DIRECTION SPRIN		1		
	10	VKS3767-001	HOOK		1		
	11	VKM3896-001	HOOK SLIDER		1		
	12	VKM3897-001	LOCK ARM		1		
	13	VKS3768-001	GUIDE RAIL		1		
	14	SDST2605Z	SCREW		2		
	15	VKM3898-00C	FLOATING BASE S		1		
	16	VKS3769-001	TRAY HOLDER		1		
	17	VKW5250-002	LIFT SPRING		1		
	18	VKL7881-002	PROTECTOR		1		
	19	VKS2267-00A	ACTUATOR UNIT		1		
	20	VKL2768-001	TRAY BASE		1		
	21	VKS1162-001	ACTUATOR BASE		1		
	22	MSN5G257A	MOTOR		2		
	23	LPSP2606Z	SCREW		2		
	24	VKS5548-001	MOTOR PULLEY		2		
	25	VKB3000-177	BELT		2		
	26	VKS5549-001	PULLEY GEAR		2		
	27	VKS5550-001	THIRD GEAR(C)		1		
	28	VKS5551-001	THIRD GEAR(T)		1		
	29	VKS5552-001	ELAVATOR GEAR		1		
	30	VKS5553-001	M.T GEAR		1		
	31	VKS5554-001	UP.DOWN GEAR		1		
	32	VKS3770-002	SWITCH GEAR		1		
	33	VKS2269-001	ELEVATOR ARM		1		
	34	VKH5783-001	ELEVATOR PIN		1		
	35	VKW5246-001	ELEVATOR SPRING		1		
	36	VKS3772-001	M.T DETECTOR		1		
	37	SDST2605Z	SCREW	FOR TRAY BASE	4		
	38	VKS3773-001	FLAP		1		
	39	VKW5247-003	FLAP SPRING		1		
	40	VKS2270-00A	TRAY UNIT		1		
	41	VKS1157-001	MAIN TRAY		1		
	42	VKM3900-001	CLIC SPRING(S)		1		
	43	VKS3774-001	SPRING COVER		1		
	44	VKS1158-001	SUB TRAY		3		
	45	VKS5555-001	PLANET GEAR		1		
	46	VKS3775-001	DOOR OPNER		1		
	47	VYSA1R3-048	SPACER		1		
	48	VKS1159-001	TRAY GUIDE(L)		1		
	49	VKS3777-001	SELECT SW		1		
	50	VKS1160-001	TRAY GUIDE(R)		1		
	51	SDST2605Z	SCREW	FOR TRAY GUIDE	3		
	52	VKS1163-003	TOP COVER		1		
	53	VKS3778-001	SELECTOR		1		
	54	VKW5248-001	SELECTOR SPRING		1		

BLOCK NO. M3MM

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	55	VKM3901-001	CLICK SPRING(M)		1		
	56	SBSF2608Z	SCREW	FOR TOP COVER	4		
	57	VKZ4791-001	INSULATOR		3		
	58	VKS3779-001	STOPPER		1		
	59	VKW5249-001	ROD		1		
	60	VKL2769-002	CLAMPER BASE		1		
	61	VYH7313-003	MAGNET		1		
	62	VKL7757-001	YOKE		1		
	63	VKS3780-002	CLAMPER		1		
	64	SPSF2604Z	SCREW		1		
	65	SDST2605Z	SCREW		1		
	66	VMW3699-001	F.P.C (PWB)		1		
	67	SDST2605Z	SCREW		1		
	68	VKS1161-002	T.MECHA CHASSIS		1		
	69	VKZ4781-001	SCREW SHAFT		1		
	70	VKS5556-001	S.S. GEAR		1		
	71	VKS5557-001	F.M. GEAR		1		
	72	PPN-13KA10C	MOTOR		1		
⚠	73	OPTIMA-610B1	C.D PICK UNIT(C		1		
	74	VKM3903-001	RACK ARM		1		
	75	SPSK1714M	MINI SCREW		2		
	76	VKS5558-001	MIDDLE GEAR		1		
	77	VKM3904-001	SHAFT HOLDER		1		
	78	VKZ4248-206	MINI SCREW		1		
	79	LPSP2004Z	SCREW		1		

10.Block Diagram

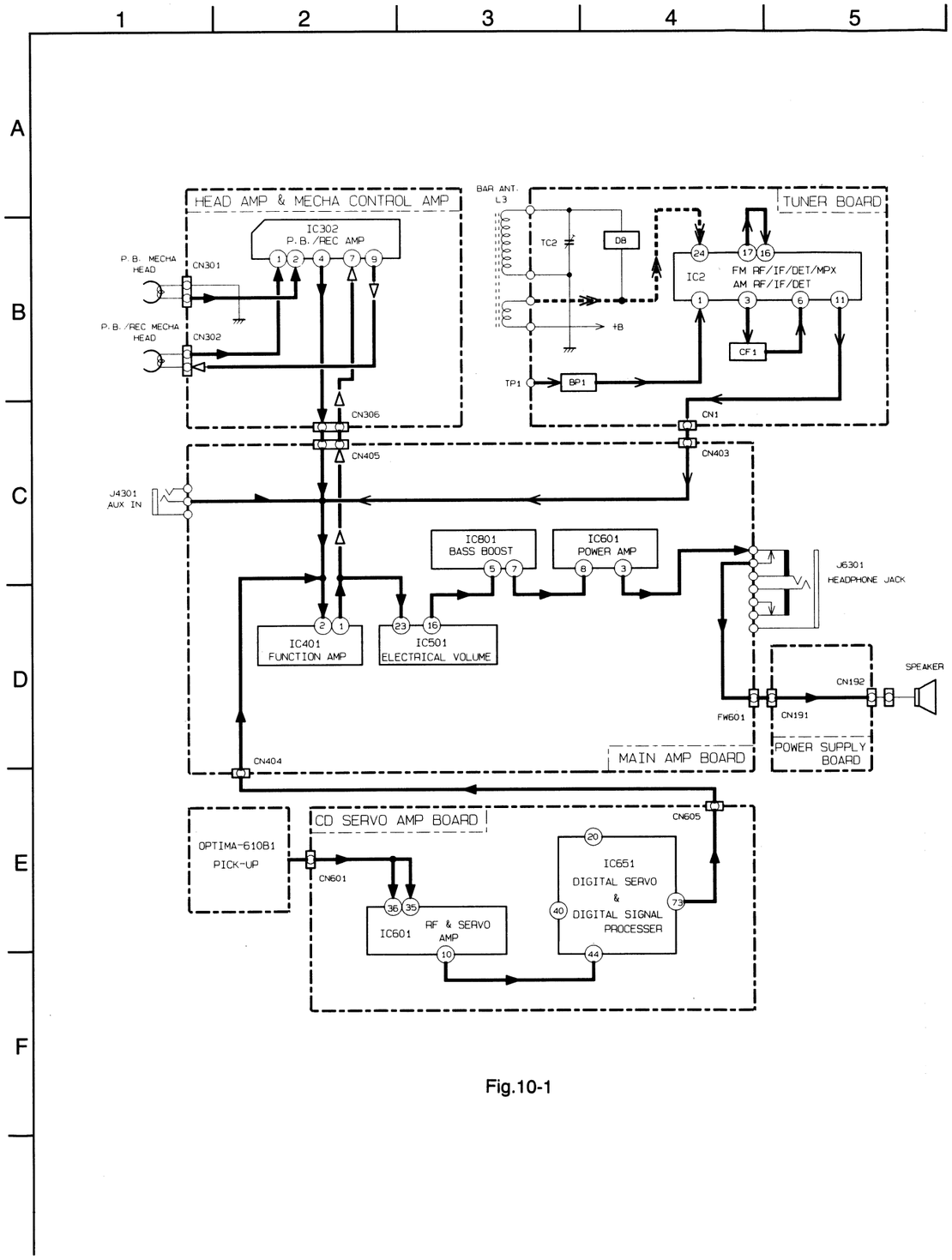
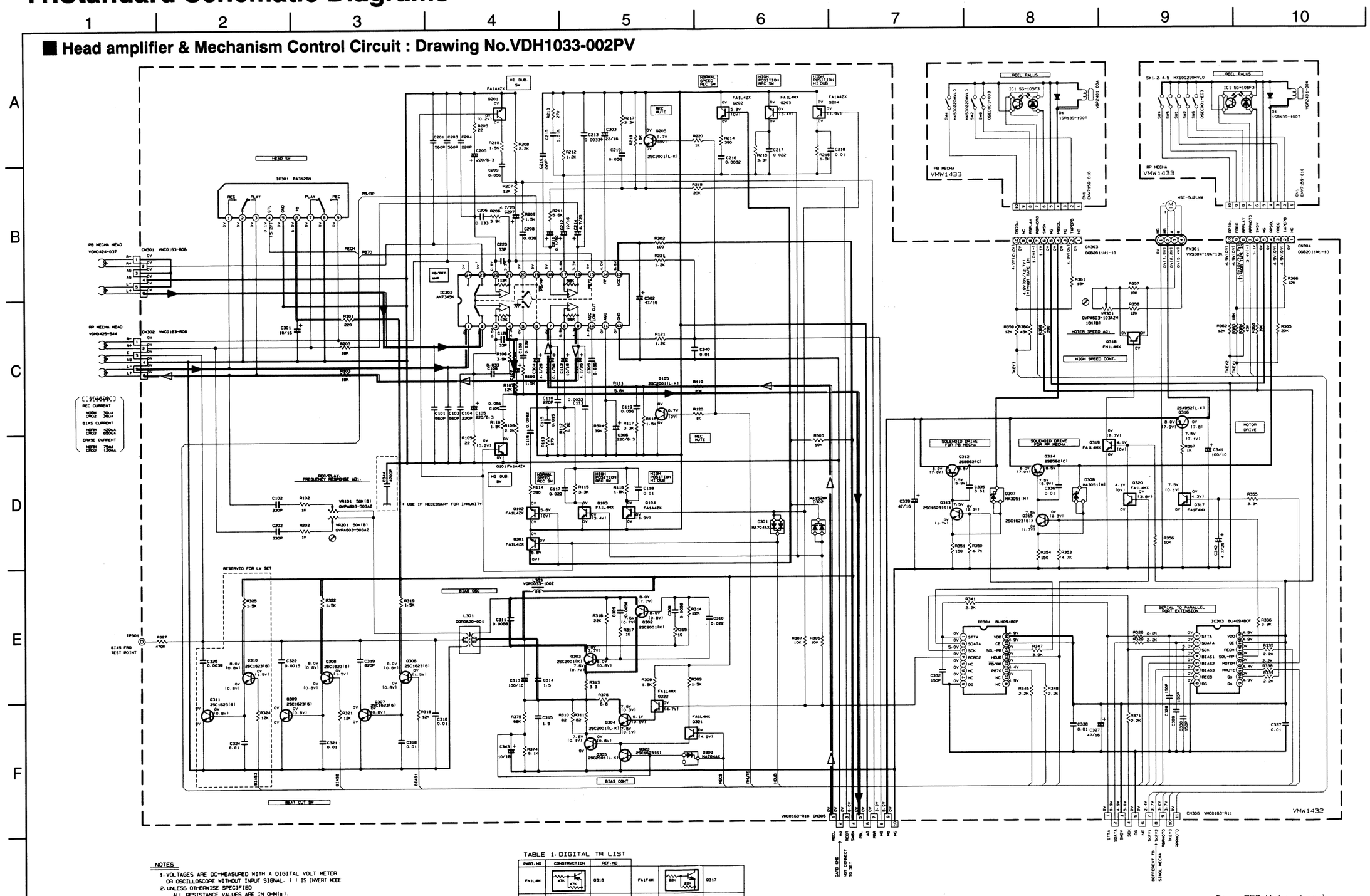


Fig.10-1

11.Standard Schematic Diagrams

■ Head amplifier & Mechanism Control Circuit : Drawing No.VDH1033-002PV



NOTES

1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER OR OSCILLOSCOPE WITHOUT INPUT SIGNAL. ( ) IS INVERT MODE
2. UNLESS OTHERWISE SPECIFIED
   - ALL RESISTANCE VALUES ARE IN OHM(Ω).
   - ALL CAPACITORS ARE CERAMIC CAPACITOR
   - ALL CAPACITANCE VALUES ARE IN μF(P=pF).
   - ALL INDUCTANCE VALUES ARE IN μH(m=mH).
   - ALL E.CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE (μF)/RATED VOLTAGE (V).
   - PP PLYPROPYLENE CAPACITOR

TABLE 1. DIGITAL TR LIST

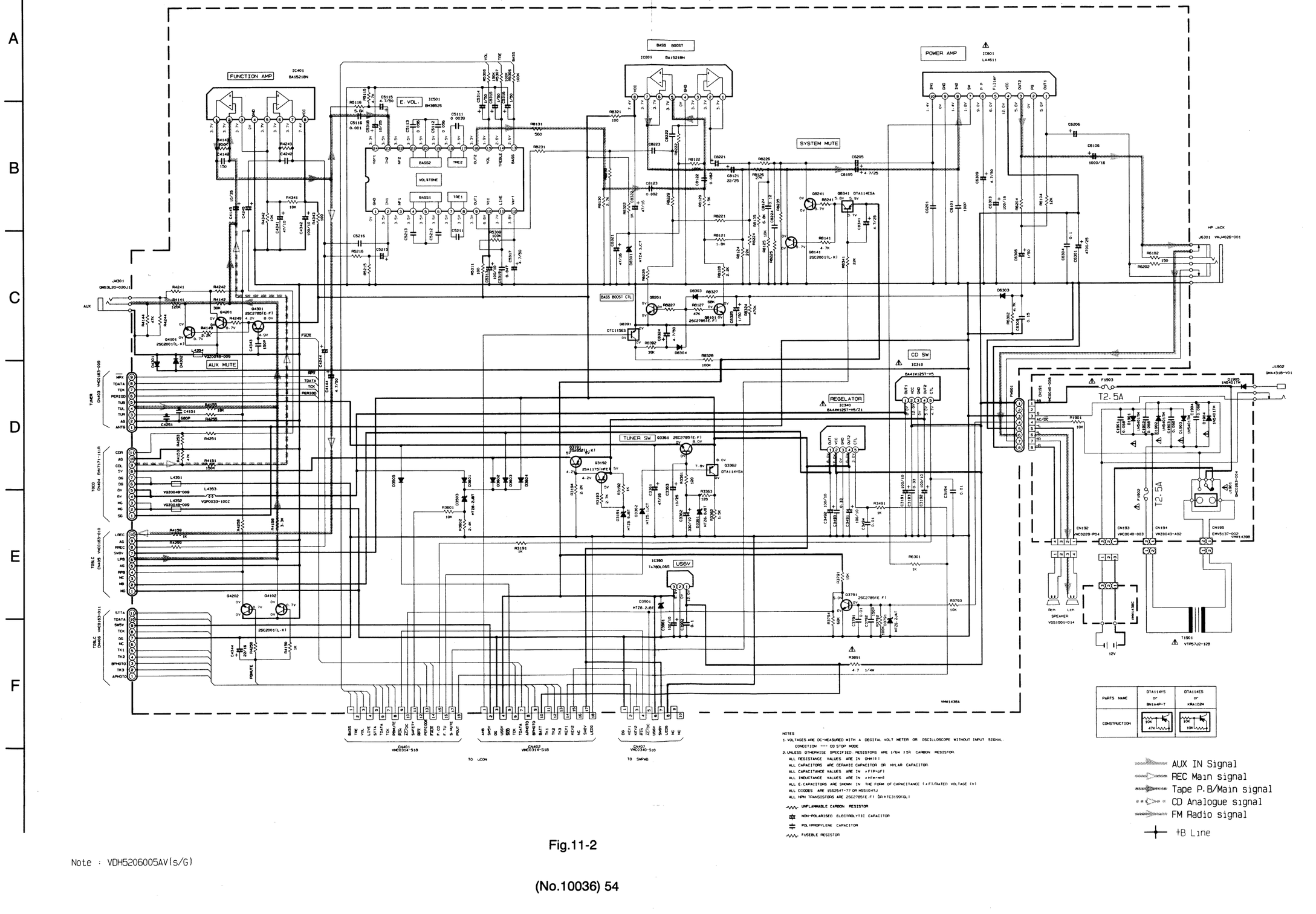
PART NO	CONSTRUCTION	REF. NO	PART NO	CONSTRUCTION	REF. NO
FN1L4M		Q318	FA1F4M		Q317
FA1A4Z		Q101/Q201 Q104/Q204	FA1L4M		Q103/Q203 Q319 Q320/Q321/Q322
FA1L4Z		Q102/Q202 Q301			

REC Main signal
Tape P.B/Main signal
+B Line

Fig.11-1

Note : VDH1033002PA(s/G)

■ Power Supply&Power Amplifier Circuit : Drawing No.VDH5206-005AV

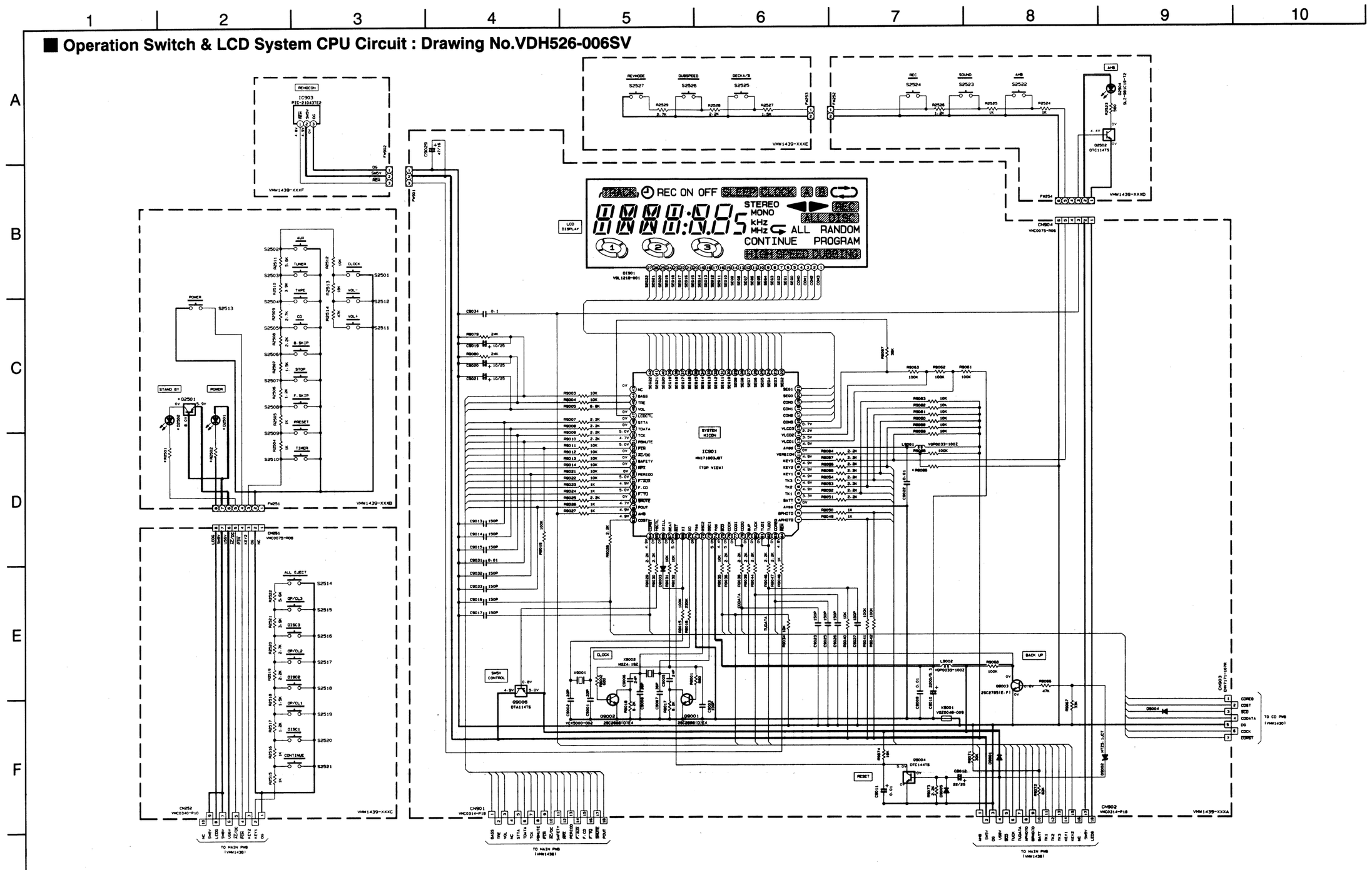


NOTES
1. VOLTAGES ARE DC-MEASURED WITH A DEGITAL VOLT METER OR OSCILLOSCOPE WITHOUT INPUT SIGNAL.
CONDITION ··· CD STOP MODE
2. UNLESS OTHERWISE SPECIFIED: RESISTORS ARE 1/6W ±5% CARBON RESISTOR.
ALL RESISTANCE VALUES ARE IN OHM(Ω)
ALL CAPACITORS ARE CERAMIC CAPACITOR OR MYLAR CAPACITOR
ALL CAPACITANCE VALUES ARE IN μF(P=pF)
ALL INDUCTANCE VALUES ARE IN μH(m=mH)
ALL E.CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE / μF/RATED VOLTAGE (V)
ALL DIODES ARE 1SS254T-77 OR HSS104TJ
ALL NPN TRANSISTORS ARE 2SC2785(E F) OR KTC3199(GL)
UNFLAMMABLE CARBON RESISTOR
NON-POLARISED ELECTROLYTIC CAPACITOR
POLYPROPYLENE CAPACITOR
FUSEBLE RESISTOR

Fig.11-2

Note : VDH5206005AV(s/G)

■ Operation Switch & LCD System CPU Circuit : Drawing No.VDH526-006SV



NOTES
1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER OR OSCILLOSCOPE WITHOUT INPUT SIGNAL.
   CONDITION --- CD STOP AT AC SUPPLY
   VOL:9 SOUND:BEAT AHB:ON WITHOUT TAPES
2. UNLESS OTHERWISE SPECIFIED ,RESISTORS ARE 1/6W ±5% CARBON RESISTOR.
   ALL RESISTANCE VALUES ARE IN OHM(Ω).
   ALL CAPACITORS ARE CERAMIC CAPACITOR OR MYLAR CAPACITOR.
   ALL CAPACITANCE VALUES ARE IN ,F(P=pF).
   ALL INDUCTANCE VALUES ARE IN ,H(m=mH)
   ALL E CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE (,F)/RATED VOLTAGE (V).
   ALL DIODES ARE 1SS254T-77

DTC114TS DTC144TS DTA114TS DTA124TS

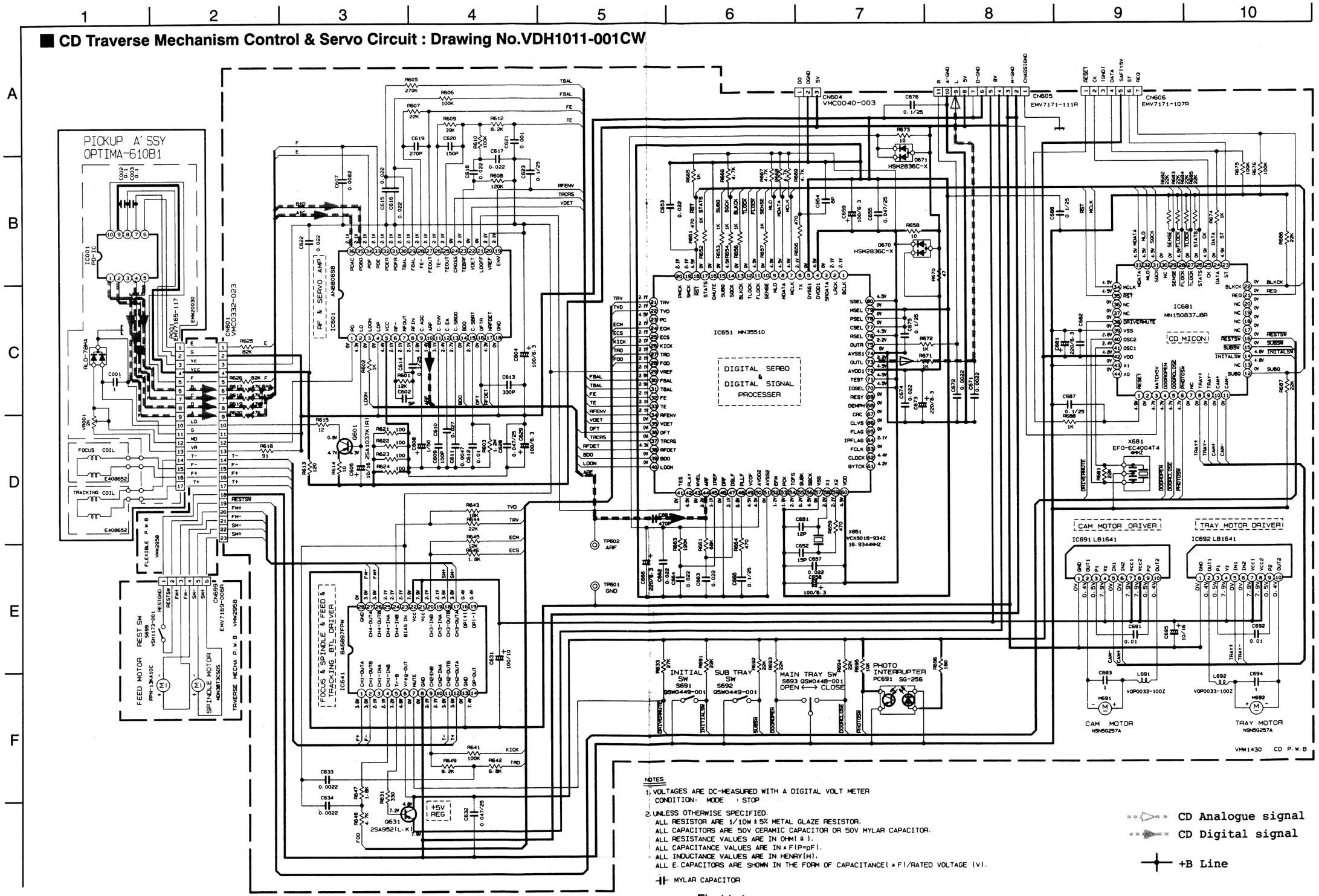
	R2501	R2502	Q2501	Q2502	Q2501	R9086
J/C	——	560	SLR-342VR-T14	——	——	——
E/B/G	270	360	SLR-342MG-T14	SLR-342VR-T14	DTA124TS	390K
U	270	360	SLR-342MG-T14	SLR-342VR-T14	DTA124TS	150K

Fig.11-3

+B Line

Note : VDH5206006SV(s/G)

■ CD Traverse Mechanism Control & Servo Circuit : Drawing No.VDH1011-001CW



NOTES.

1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER
   CONDITION: MODE : STOP
2. UNLESS OTHERWISE SPECIFIED.
   ALL RESISTOR ARE 1/10W ± 5% METAL GLAZE RESISTOR.
   ALL CAPACITORS ARE 50V CERAMIC CAPACITOR OR 50V MYLAR CAPACITOR.
   ALL RESISTANCE VALUES ARE IN OHM(Ω).
   ALL CAPACITANCE VALUES ARE IN ㎌(P=pF).
   ALL INDUCTANCE VALUES ARE IN HENRY(H).
   ALL E-CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(㎌)/RATED VOLTAGE (V).

MYLAR CAPACITOR

CD Analogue signal

CD Digital signal

+B Line

Fig.11-4

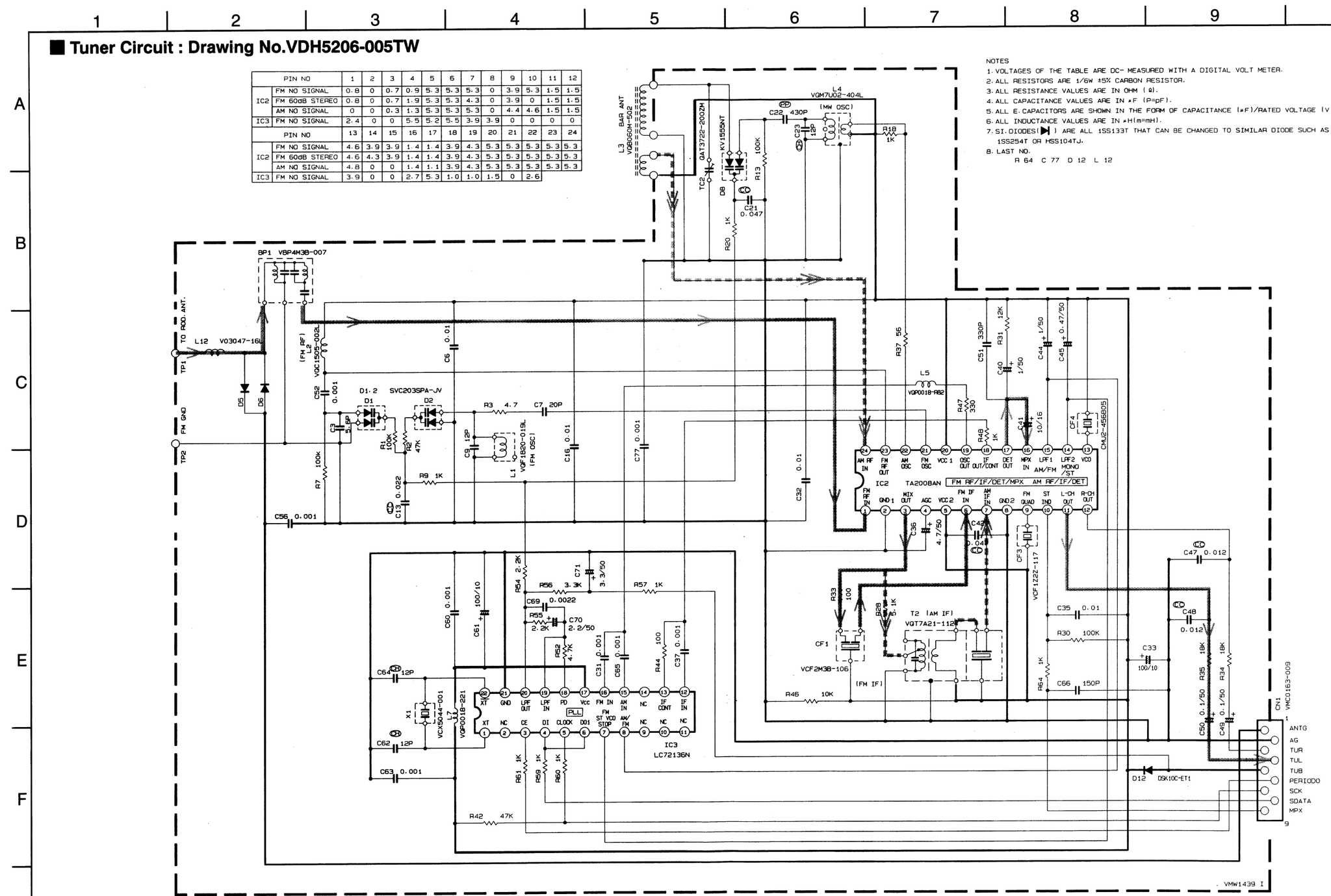
Note : VDH1011001CW (/s/G)

■ Tuner Circuit : Drawing No.VDH5206-005TW

PIN NO		1	2	3	4	5	6	7	8	9	10	11	12
IC2	FM NO SIGNAL	0.8	0	0.7	0.9	5.3	5.3	5.3	0	3.9	5.3	1.5	1.5
	FM 60dB STEREO	0.8	0	0.7	1.9	5.3	5.3	4.3	0	3.9	0	1.5	1.5
	AM NO SIGNAL	0	0	0.3	1.3	5.3	5.3	5.3	0	4.4	4.6	1.5	1.5
IC3	FM NO SIGNAL	2.4	0	0	5.5	5.2	5.5	3.9	3.9	0	0	0	0

PIN NO		13	14	15	16	17	18	19	20	21	22	23	24
IC2	FM NO SIGNAL	4.6	3.9	3.9	1.4	1.4	3.9	4.3	5.3	5.3	5.3	5.3	5.3
	FM 60dB STEREO	4.6	4.3	3.9	1.4	1.4	3.9	4.3	5.3	5.3	5.3	5.3	5.3
	AM NO SIGNAL	4.8	0	0	1.4	1.1	3.9	4.3	5.3	5.3	5.3	5.3	5.3
IC3	FM NO SIGNAL	3.9	0	0	2.7	5.3	1.0	1.0	1.5	0	2.6		

NOTES
1. VOLTAGES OF THE TABLE ARE DC- MEASURED WITH A DIGITAL VOLT METER.
2. ALL RESISTORS ARE 1/6W ±5% CARBON RESISTOR.
3. ALL RESISTANCE VALUES ARE IN OHM (Ω).
4. ALL CAPACITANCE VALUES ARE IN μF (P=pF).
5. ALL E.CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE (μF)/RATED VOLTAGE (V).
6. ALL INDUCTANCE VALUES ARE IN μH(m=mH).
7. SI.DIODES(▶|) ARE ALL 1SS133T THAT CAN BE CHANGED TO SIMILAR DIODE SUCH AS 1SS254T OR HSS104TJ.
8. LAST NO.
   R 64 C 77 D 12 L 12



Note : VDH5206005TW

FM Radio signal
MW Radio signal
+B Line

Fig.11-5

12.Location of P.C.Board Parts

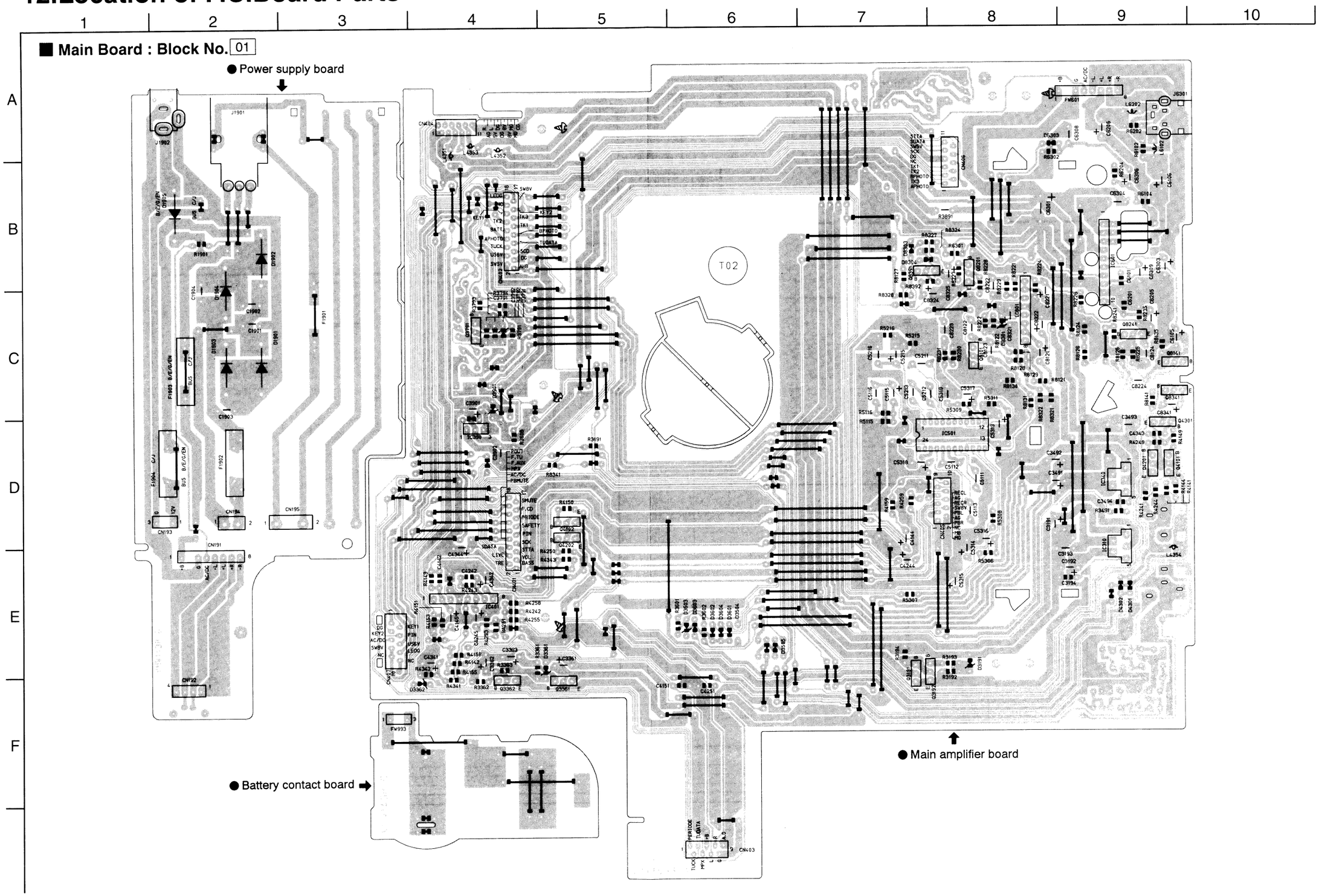


Fig.12-1

■ System CPU & Tuner Board : Block No. 02

● Active hyper-bass switch board

● Mode switch board

● LCD & system CPU board

● Function switch board

● CD tray switch board

● Remote control senser board

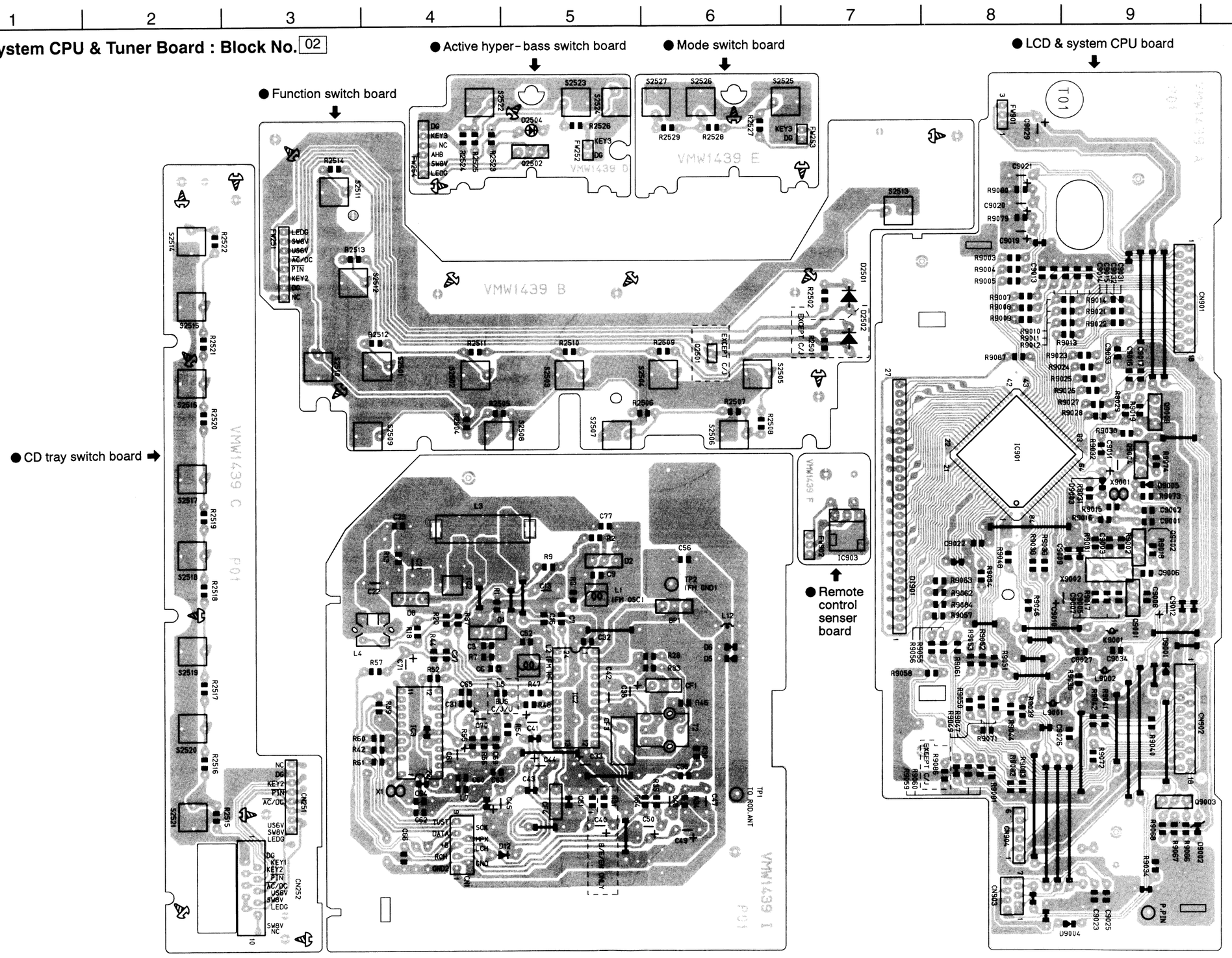


Fig.12-2

■ Head amplifier & Mechanism Control Board : Block No. 03

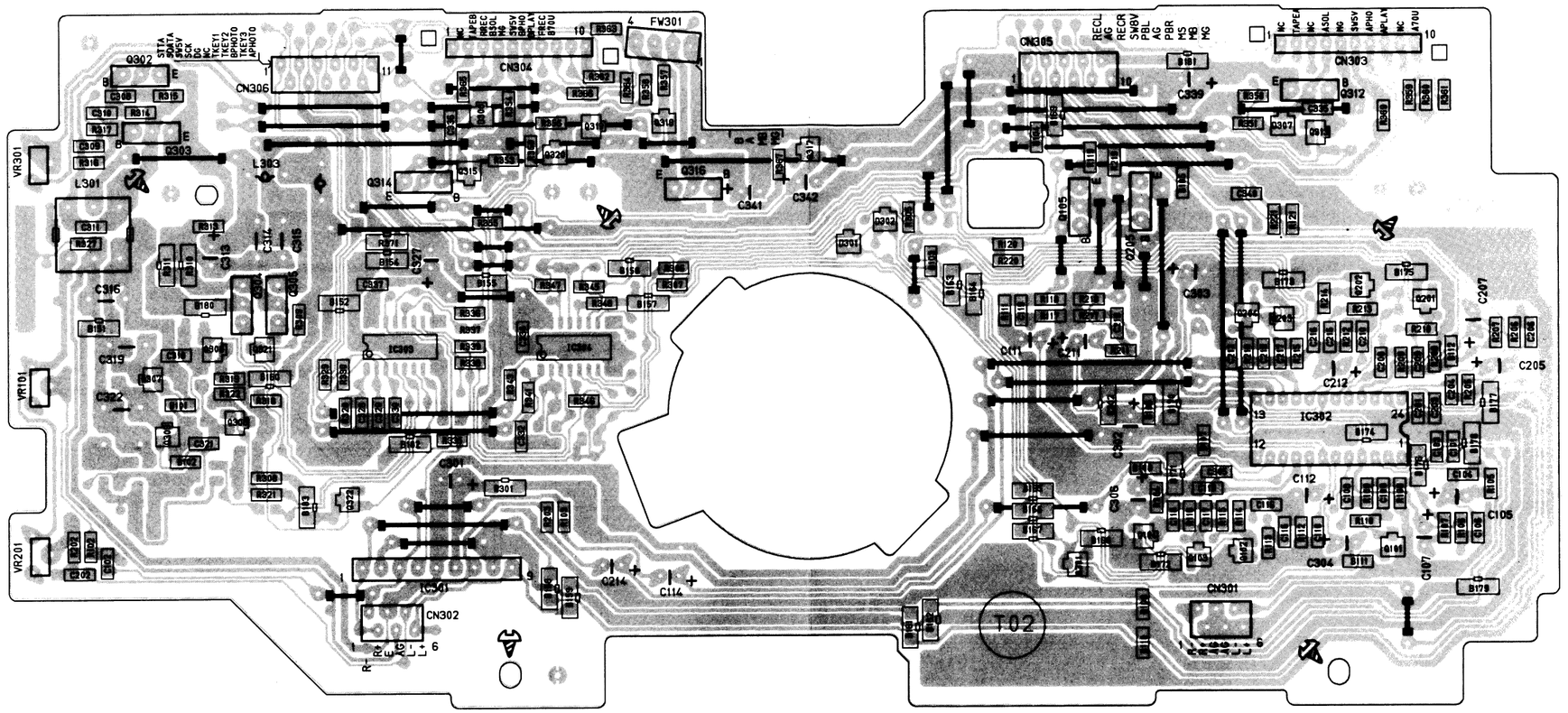


Fig.12-3

■ Reel Pulse Board : Block No. 04

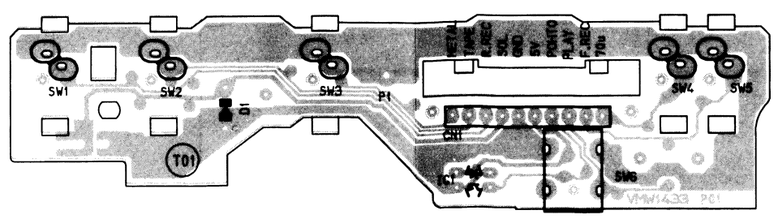


Fig.12-4

■ CD Traverse Mechanism Control & Servo Board : Block No. 05

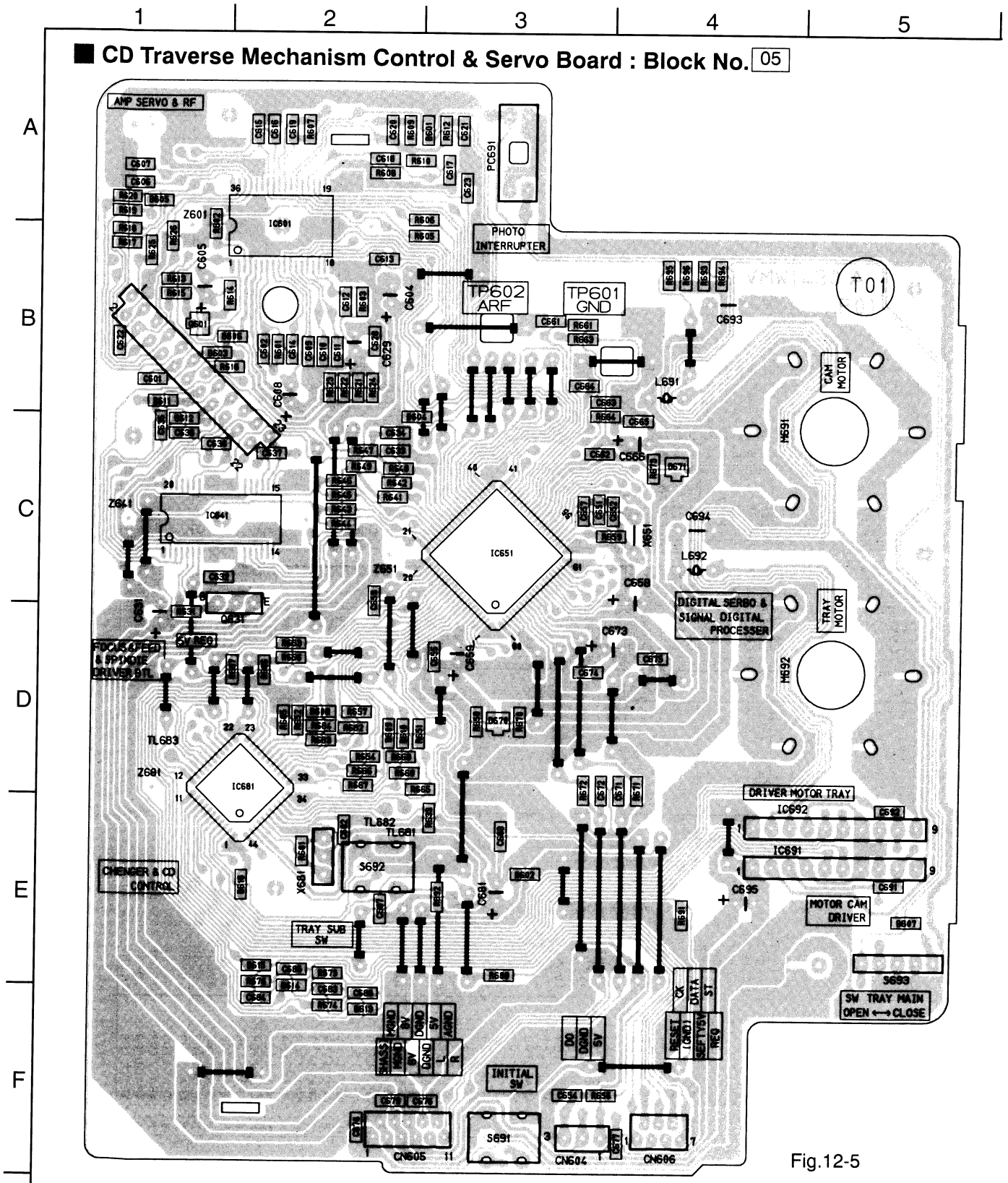


Fig.12-5

■ Feed Moter Board : Block No. 06

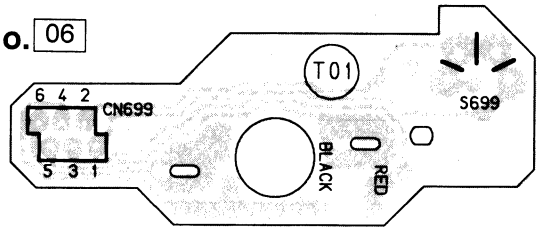


Fig.12-6

13.Electrical Parts List

■ Main Board

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	CN191	VMC0040-008	CONNECTOR		
	CN192	VMC0229-P04	CONNECTOR		
	CN193	VMC0040-003	CONNECTOR		
	CN194	VMZ0049-A02	CONNECTOR		
	CN195	EMV5137-002	CONNECTOR		
	CN401	VMC0314-S18	CONNECTOR	UCON-MAIN	
	CN402	VMC0314-S18	CONNECTOR	UCON-MAIN	
	CN403	VMC0163-009	CONNECTOR	MAIN-TUNER	
	CN404	EMV7171-111R	CONNECTOR	MAIN-CD	
	CN405	VMC0163-010	CONNECTOR	MAIN-SLC	
	CN406	VMC0163-011	CONNECTOR	MAIN-SLC	
	CN407	VMC0340-S10	CONNECTOR	MAIN-SW	
	C1901	QFV71HJ-683ZM	FILM CAPACITOR	.068MF 5% 50V	
	C1902	QFV71HJ-683ZM	FILM CAPACITOR	.068MF 5% 50V	
	C1903	QFV71HJ-683ZM	FILM CAPACITOR	.068MF 5% 50V	
	C1904	QFV71HJ-683ZM	FILM CAPACITOR	.068MF 5% 50V	
	C3191	QET41AM-107	E.CAPACITOR	100MF 20% 10V	
	C3192	QET41AM-107	E.CAPACITOR	100MF 20% 10V	
	C3193	QFV71HJ-334ZM	FILM CAPACITOR	.33MF 5% 50V	
	C3194	QCVB1CM-103Y	C.CAPACITOR	.010MF 20% 16V	
	C3361	QET41CM-476	E.CAPACITOR	47MF 20% 16V	
	C3362	QETC1AM-337ZN	E.CAPACITOR	330MF 20% 10V	
	C3363	QET41EM-106	E.CAPACITOR	10MF 20% 25V	
	C3491	QET41AM-107	E.CAPACITOR	100MF 20% 10V	
	C3492	QET41AM-107	E.CAPACITOR	100MF 20% 10V	
	C3493	QFV71HJ-334ZM	FILM CAPACITOR	.33MF 5% 50V	
	C3494	QCVB1CM-103Y	C.CAPACITOR	.010MF 20% 16V	
	C3791	QCVB1CM-103Y	C.CAPACITOR	.010MF 20% 16V	
	C3792	QCBB1HK-151Y	C.CAPACITOR	150PF 10% 50V	
	C3901	QET41AM-107	E.CAPACITOR	100MF 20% 10V	
	C3902	QFV41HJ-104ZM	FILM CAPACITOR	.10MF 5% 50V	
	C4142	QCS11HJ-150	C.CAPACITOR	15PF 5% 50V	
	C4144	QET41HM-475	E.CAPACITOR	4.7MF 20% 50V	
	C4145	QTE1V06-106Z	E.CAPACITOR		
	C4151	QCBB1HK-681Y	C.CAPACITOR	680PF 10% 50V	
	C4242	QCS11HJ-150	C.CAPACITOR	15PF 5% 50V	
	C4244	QET41HM-475	E.CAPACITOR	4.7MF 20% 50V	
	C4245	QTE1V06-106Z	E.CAPACITOR		
	C4251	QCBB1HK-681Y	C.CAPACITOR	680PF 10% 50V	
	C4341	QET41AM-476	E.CAPACITOR	47MF 20% 10V	
	C4342	QET41AM-107	E.CAPACITOR	100MF 20% 10V	
	C4343	QCBB1HK-151Y	C.CAPACITOR	150PF 10% 50V	
	C4344	QET41CM-226	E.CAPACITOR	22MF 20% 16V	
	C5111	QFLB1HJ-392	M.CAPACITOR	3900PF 5% 50V	
	C5112	QFLC1HJ-563	M.CAPACITOR	.056MF 5% 50V	
	C5113	QFLC1HJ-563	M.CAPACITOR	.056MF 5% 50V	
	C5115	QET41HM-475	E.CAPACITOR	4.7MF 20% 50V	
	C5116	QFLC1HJ-102ZM	M.CAPACITOR	1000PF 5% 50V	
	C5211	QFLB1HJ-392	M.CAPACITOR	3900PF 5% 50V	
	C5212	QFLC1HJ-563	M.CAPACITOR	.056MF 5% 50V	
	C5213	QFLC1HJ-563	M.CAPACITOR	.056MF 5% 50V	
	C5215	QET41HM-475	E.CAPACITOR	4.7MF 20% 50V	
	C5216	QFLC1HJ-102ZM	M.CAPACITOR	1000PF 5% 50V	
	C5313	QET41AM-107	E.CAPACITOR	100MF 20% 10V	
	C5314	QET41HM-105	E.CAPACITOR	1.0MF 20% 50V	

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	C5315	QET41HM-105	E.CAPACITOR	1.0MF 20% 50V	
	C5316	QET41HM-105	E.CAPACITOR	1.0MF 20% 50V	
	C5317	QET41HM-475	E.CAPACITOR	4.7MF 20% 50V	
	C5318	QET41EM-106	E.CAPACITOR	10MF 20% 25V	
	C5319	QFLC1HJ-473ZM	M.CAPACITOR	.047MF 5% 50V	
	C6101	QCBB1HK-101Y	C.CAPACITOR	100PF 10% 50V	
	C6105	QTE1E03-475Z	E CAPACITOR		
	C6106	QETN1CM-108Z	E CAPACITOR	1000MF 20% 16V	
	C6201	QCBB1HK-101Y	C.CAPACITOR	100PF 10% 50V	
	C6205	QTE1E03-475Z	E CAPACITOR		
	C6206	QETN1CM-108Z	E CAPACITOR	1000MF 20% 16V	
⚠	C6301	QETM1EM-478	E CAPACITOR	4700MF 20% 25V	
	C6303	QET41CM-107	E.CAPACITOR	100MF 20% 16V	
	C6304	QFLC1HJ-104ZM	M.CAPACITOR	.10MF 5% 50V	
	C6306	QET41HM-105	E.CAPACITOR	1.0MF 20% 50V	
	C6308	QFV81HJ-154	FILM CAPACITOR	.15MF 5% 50V	
	C6309	QET41HM-475	E.CAPACITOR	4.7MF 20% 50V	
	C8121	QETC1EM-226ZM	E.CAPACITOR	22MF 20% 25V	
	C8122	QFN41HJ-823	M.CAPACITOR	.082MF 5% 50V	
	C8123	QFN41HJ-823	M.CAPACITOR	.082MF 5% 50V	
	C8124	QFV71HJ-124ZM	FILM CAPACITOR	.12MF 5% 50V	
	C8221	QETC1EM-226ZM	E.CAPACITOR	22MF 20% 25V	
	C8222	QFN41HJ-823	M.CAPACITOR	.082MF 5% 50V	
	C8223	QFN41HJ-823	M.CAPACITOR	.082MF 5% 50V	
	C8224	QFV71HJ-124ZM	FILM CAPACITOR	.12MF 5% 50V	
	C8321	QET41CM-476	E.CAPACITOR	47MF 20% 16V	
	C8322	QET41CM-476	E.CAPACITOR	47MF 20% 16V	
	C8324	QET41HM-475	E.CAPACITOR	4.7MF 20% 50V	
	C8325	QET41HM-105	E.CAPACITOR	1.0MF 20% 50V	
	C8341	QET41EM-475	E.CAPACITOR	4.7MF 20% 25V	
⚠	D1901	1N5401TM	SI DIODE		
⚠	D1902	1N5401TM	SI DIODE		
⚠	D1903	1N5401TM	SI DIODE		
⚠	D1904	1N5401TM	SI DIODE		
	D1905	1N5401TM	SI DIODE		
	D3191	MTZ5.6JB	ZENER DIODE		
	D3361	MTZ6.8JB	ZENER DIODE		
	D3362	MTZ5.1JC	ZENER DIODE		
	D3503	MTZ8.2JB	ZENER DIODE		
	D3505	1SS133	SI DIODE		
	D3601	1SS133	SI DIODE		
	D3602	1SS133	SI DIODE		
	D3603	1SS133	SI DIODE		
	D3604	1SS133	SI DIODE		
	D3791	MTZ6.2JAT-77	ZENER DIODE		
	D3901	MTZ8.2JB	ZENER DIODE		
	D4301	1SS133	SI DIODE		
	D4302	1SS133	SI DIODE		
	D6303	1SS133	SI DIODE		
	D8301	MTZ4.3JC	Z.DIODE		
	D8303	1SS133	SI DIODE		
	D8304	1SS133	SI DIODE		
	F1913	EMG7331-003Z	FUSE CLIP		
	IC310	BA41W12ST-V5	TRANSISTOR		
	IC340	BA44W12ST-V5/Z1	IC		

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	IC390	TA78DL06S	IC		
	IC401	BA15218N	IC	ADDER	
	IC501	BH3852S	IC	VOL&TONE	
⚠	IC601	LA4611	IC	<111>	
	IC801	BA15218N	IC	BB AMP	
	J1901	QMC0263-004BS	AC SOCKET		
	J1902	QMA431B-V01	FILM CAPACITOR		
	J4301	QMS3L20-020	JACK		
	J6301	VMJ4026-001	HEADPHONE JACK		
	L4351	VQZ0048-009	INDUCTOR		
	L4352	VQZ0048-009	INDUCTOR		
	L4353	VQP0033-100Z	INDUCTOR		
	L4354	VQZ0048-009	INDUCTOR		
	L6102	QWY124-5.0Y	BUS WIRE		
	L6202	QWY124-5.0Y	BUS WIRE		
	Q3191	2SA952(L,K)	TRANSISTOR		
	Q3192	2SA1175	TRANSISTOR		
⚠	Q3361	2SC2785	TRANSISTOR	TUNER SW	
	Q3362	DTA114YS	TRANSISTOR		
	Q3791	2SC2785	TRANSISTOR		
	Q4101	2SC2001(L,K)	TRANSISTOR		
	Q4102	2SC2001(L,K)	TRANSISTOR		
	Q4201	2SC2001(L,K)	TRANSISTOR		
	Q4202	2SC2001(L,K)	TRANSISTOR		
	Q4301	2SC2785	TRANSISTOR		
	Q8101	2SC2785	TRANSISTOR		
	Q8141	2SC2001(L,K)	TRANSISTOR		
	Q8201	2SC2785	TRANSISTOR		
	Q8241	2SC2001(L,K)	TRANSISTOR		
	Q8341	DTA114ES	D.TRANSISTOR	MUTE DRIV	
	Q8391	DTC115ES	TRANSISTOR		
	R1901	QRD161J-103	CARBON RESISTOR	AC/DC	
	R3191	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R3192	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R3193	QRD161J-272	CARBON RESISTOR	2.7K 5% 1/6W	
	R3194	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R3361	QRD161J-121	CARBON RESISTOR	120 5% 1/6W	
	R3362	QRD161J-152	CARBON RESISTOR	1.5K 5% 1/6W	
	R3363	QRD161J-121	CARBON RESISTOR	120 5% 1/6W	
	R3491	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R3601	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R3602	QRD161J-242	CARBON RESISTOR	2.4K 5% 1/6W	
	R3791	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R3792	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R3793	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R3794	QRD161J-683	CARBON RESISTOR	68K 5% 1/6W	
	R3891	QRZ0077-4R7X	FUSE RESISTOR	4.7 1/0W	
	R4141	QRD161J-124	CARBON RESISTOR	120K 5% 1/6W	
	R4142	QRD161J-303Y	CARBON RESISTOR	30K 5% 1/6W	
	R4143	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R4144	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
	R4149	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R4150	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R4151	QRD161J-154	CARBON RESISTOR	150K 5% 1/6W	
	R4153	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R4155	QRD161J-183	CARBON RESISTOR	18K 5% 1/6W	
	R4158	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
	R4159	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R4241	QRD161J-124	CARBON RESISTOR	120K 5% 1/6W	
	R4242	QRD161J-303Y	CARBON RESISTOR	30K 5% 1/6W	
	R4243	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R4244	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
	R4249	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R4250	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R4251	QRD161J-154	CARBON RESISTOR	150K 5% 1/6W	
	R4253	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
	R4255	QRD161J-183	CARBON RESISTOR	18K 5% 1/6W	
	R4258	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
	R4259	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R4341	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R4342	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R4343	QRD161J-101	CARBON RESISTOR	100 5% 1/6W	
	R5115	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R5116	QRD167J-562	CARBON RESISTOR	5.6K 5% 1/6W	
	R5215	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R5216	QRD167J-562	CARBON RESISTOR	5.6K 5% 1/6W	
	R5306	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R5307	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R5308	QRD161J-154	CARBON RESISTOR	150K 5% 1/6W	
	R5309	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R5311	QRD161J-101	CARBON RESISTOR	100 5% 1/6W	
	R6102	QRD161J-151	CARBON RESISTOR	150 5% 1/6W	
	R6104	QRD161J-123	CARBON RESISTOR	12K 5% 1/6W	
	R6202	QRD161J-151	CARBON RESISTOR	150 5% 1/6W	
	R6204	QRD161J-123	CARBON RESISTOR	12K 5% 1/6W	
	R6301	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R6302	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R8121	QRD161J-182	CARBON RESISTOR	1.8K 5% 1/6W	
	R8122	QRD161J-184	CARBON RESISTOR	180K 5% 1/6W	
	R8124	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R8125	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R8126	QRD161J-273	CARBON RESISTOR	27K 5% 1/6W	
	R8127	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
	R8128	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R8129	QRD161J-152	CARBON RESISTOR	1.5K 5% 1/6W	
	R8130	QRD161J-272	CARBON RESISTOR	2.7K 5% 1/6W	
	R8131	QRD161J-561	CARBON RESISTOR	560 5% 1/6W	
	R8135	QRD167J-682	CARBON RESISTOR	6.8K 5% 1/6W	
	R8141	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R8221	QRD161J-182	CARBON RESISTOR	1.8K 5% 1/6W	
	R8222	QRD161J-184	CARBON RESISTOR	180K 5% 1/6W	
	R8224	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R8225	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R8226	QRD161J-273	CARBON RESISTOR	27K 5% 1/6W	
	R8227	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
	R8228	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R8229	QRD161J-152	CARBON RESISTOR	1.5K 5% 1/6W	
	R8230	QRD161J-272	CARBON RESISTOR	2.7K 5% 1/6W	
	R8231	QRD161J-561	CARBON RESISTOR	560 5% 1/6W	
	R8235	QRD167J-682	CARBON RESISTOR	6.8K 5% 1/6W	

BLOCK NO. 01

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R8241	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R8321	QRD161J-101	CARBON RESISTOR	100 5% 1/6W	
	R8322	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R8324	QRD161J-474	CARBON RESISTOR	470K 5% 1/6W	
	R8327	QRD161J-683	CARBON RESISTOR	68K 5% 1/6W	
	R8328	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R8341	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R8392	QRD161J-393	CARBON RESISTOR	39K 5% 1/6W	

■ System CPU & Tuner Board

BLOCK NO. 02

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	S* 1	VBP4M3B-007Z	P FILTER	BPF	
	C 3	QCSB1HK-5R6Y	C.CAPACITOR	5.6PF 10% 50V	
	C 6	QCVB1CN-103Y	C.CAPACITOR	.010MF 30% 16V	
	C 7	QCS11HJ-200	C.CAPACITOR	20PF 5% 50V	
	C 9	QCS11HJ-120	C.CAPACITOR	12PF 5% 50V	
	C 13	QCC11EM-223V	C.CAPACITOR	.022MF 20% 25V	
	C 16	QCVB1CN-103Y	C.CAPACITOR	.010MF 30% 16V	
	C 21	QCC11EM-473V	C.CAPACITOR	.047MF 20% 25V	
	C 22	QFG32AJ-431ZN	TF CAPACITOR	430PF 5% 100V	
	C 23	QCT30CH-120Y	C.CAPACITOR	12PF 5% 50V	
	C 31	QCBB1HK-102Y	C.CAPACITOR	1000PF 10% 50V	
	C 32	QCVB1CN-103Y	C.CAPACITOR	.010MF 30% 16V	
	C 33	QET41AM-107	E.CAPACITOR	100MF 20% 10V	
	C 35	QCVB1CN-103Y	C.CAPACITOR	.010MF 30% 16V	
	C 36	QET41HM-475	E.CAPACITOR	=R19	
	C 37	QCBB1HK-102Y	C.CAPACITOR	1000PF 10% 50V	
	C 40	QET41HM-105	E.CAPACITOR	1.0MF 20% 50V	
	C 41	QET41CM-106	E.CAPACITOR	10MF 20% 16V	
	C 42	QCC11EM-473V	C.CAPACITOR	.047MF 20% 25V	
	C 44	QET41HM-105	E.CAPACITOR	1.0MF 20% 50V	
	C 45	QET41HM-474	E.CAPACITOR	.47MF 20% 50V	
	C 47	QCC11EM-123V	C.CAPACITOR	.012MF 20% 25V	
	C 48	QCC11EM-123V	C.CAPACITOR	.012MF 20% 25V	
	C 49	QETC1HM-104ZN	E.CAPACITOR	.10MF 20% 50V	
	C 50	QETC1HM-104ZN	E.CAPACITOR	.10MF 20% 50V	
	C 51	QCBB1HK-331Y	C.CAPACITOR	330PF 10% 50V	
	C 52	QCBB1HK-102Y	C.CAPACITOR	1000PF 10% 50V	
	C 56	QCBB1HK-102Y	C.CAPACITOR	1000PF 10% 50V	
	C 60	QCBB1HK-102Y	C.CAPACITOR	1000PF 10% 50V	
	C 61	QET41AM-107	E.CAPACITOR	100MF 20% 10V	
	C 62	QCT30CH-120Y	C.CAPACITOR	12PF 5% 50V	
	C 63	QCBB1HK-102Y	C.CAPACITOR	1000PF 10% 50V	
	C 64	QCT30CH-120Y	C.CAPACITOR	12PF 5% 50V	
	C 65	QCBB1HK-102Y	C.CAPACITOR	1000PF 10% 50V	
	C 66	QCBB1HK-151Y	C.CAPACITOR	150PF 10% 50V	
	C 69	QCXB1CM-222Y	C.CAPACITOR	2200PF 20% 16V	
	C 70	QETC1HM-225ZN	E.CAPACITOR	2.2MF 20% 50V	
	C 71	QETC1HM-335ZN	E.CAPACITOR	3.3MF 20% 50V	
	C 77	QCBB1HK-102Y	C.CAPACITOR	1000PF 10% 50V	
	CF 1	VCF2M3B-106	C FILTER		
	CF 3	VCF1Z2Z-117Z	C FILTER		
	CF 4	CMU2-456B05	CERA LOCK		
	CN 1	VMC0163-009	CONNECTOR	TO MAIN	
	CN251	VMC0075-R08	CONNECTOR		
	CN252	VMC0340-P10	CONNECTOR	SW-MAIN	
	CN901	VMC0314-P18	CONNECTOR		
	CN902	VMC0314-P18	CONNECTOR		
	CN903	EMV7171-107R	CONNECTOR		
	CN904	VMC0075-R06	CONNECTOR		
	C9001	QCS11HJ-220	C.CAPACITOR	SUB CLOCK	
	C9002	QCS11HJ-220	C.CAPACITOR	SUB CLOCK	
	C9003	QCBB1HK-151Y	C.CAPACITOR	BEAT	
	C9005	QCS11HJ-240	C.CAPACITOR	MAIN CLOCK	
	C9006	QCS11HJ-240	C.CAPACITOR	MAIN CLOCK	
	C9007	QCS11HJ-360	C.CAPACITOR	MAIN CLOCK	

BLOCK NO. 02

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	C9008	QCS11HJ-360	C.CAPACITOR	MAIN CLOCK	
	C9009	QCVB1CM-103Y	C.CAPACITOR	VDD	
	C9010	QETM0JM-228	E CAPACITOR	VDD	
	C9011	QET41HM-105	E.CAPACITOR	RESET	
	C9012	QET41EM-106	E.CAPACITOR	10MF 20% 25V	
	C9013	QCBB1HK-151Y	C.CAPACITOR	150PF 10% 50V	
	C9014	QCBB1HK-151Y	C.CAPACITOR	150PF 10% 50V	
	C9015	QCBB1HK-151Y	C.CAPACITOR	150PF 10% 50V	
	C9016	QCBB1HK-151Y	C.CAPACITOR	150PF 10% 50V	
	C9017	QCBB1HK-151Y	C.CAPACITOR	150PF 10% 50V	
	C9019	QET41EM-106	E.CAPACITOR	BASS	
	C9020	QET41EM-106	E.CAPACITOR	TRE	
	C9021	QET41EM-106	E.CAPACITOR	10MF 20% 25V	
	C9022	QCVB1CM-103Y	C.CAPACITOR	AVREF	
	C9023	QCBB1HK-151Y	C.CAPACITOR	150PF 10% 50V	
	C9025	QCBB1HK-151Y	C.CAPACITOR	150PF 10% 50V	
	C9026	QCBB1HK-151Y	C.CAPACITOR	150PF 10% 50V	
	C9027	QCBB1HK-151Y	C.CAPACITOR	150PF 10% 50V	
	C9029	QET41CM-476	E.CAPACITOR	47MF 20% 16V	
	C9031	QCVB1CM-103Y	C.CAPACITOR	.010MF 20% 16V	
	C9032	QCBB1HK-151Y	C.CAPACITOR	150PF 10% 50V	
	C9033	QCBB1HK-151Y	C.CAPACITOR	150PF 10% 50V	
	C9034	QCFB1HZ-104Y	C.CAPACITOR	.10MF +80:-20%	
	D 1	SVC203SPA-AB-AL	VARI CAP		
	D 2	SVC203SPA-AB-AL	VARI CAP		
	D 5	1SS133	SI DIODE		
	D 6	1SS133	SI DIODE		
	D 8	KV1555NT	VARI CAP		
	D 12	DSK10C-E	DIODE		
	DI901	VGL1218-001	LCD		
	D2501	SLR-342MG-T14	LED	POWER-ON LED	
	D2502	SLR-342VR-T14	LED	STAND-BY LED	
	D2504	SLZ-981C19-T1	LED I M		
	D9001	1SS133	SI DIODE		
	D9002	MTZ5.1JC	ZENER DIODE		
	D9003	1SS133	SI DIODE		
	D9004	1SS133	SI DIODE		
	D9005	1SS133	SI DIODE		
	IC 2	TA2008AN	IC		
	IC 3	LC72136N	IC		
	IC901	MN171603J8T	IC	SYSTEM MICON	
	IC903	PIC-21043TE2	REMOCON SENSOR		
	K9001	VQZ0048-009	INDUCTOR		
	L 1	VQF1B20-019	OSC COIL	FM OSC	
	L 2	VQC1505-002T	RF COIL	FM RF	
	L 3	VQB060M-502	BAR ANTENA	MW RF	
	L 4	VQM7U02-404	OSC COIL(MW)	MW OSC	
	L 5	VQP0018-R82Y	INDUCTOR		
	L 7	VQP0018-221	INDUCTOR		
	L 12	V03047-16	INDUCTOR		
	L9001	VQP0033-100Z	INDUCTOR		
	L9002	VQP0033-100Z	INDUCTOR		
	Q2501	DTA124TSTP	TRANSISTOR TAPE		
	Q2502	DTC114TSA-T	D.TR.I.M		
	Q9001	2SC2668(O)	TRANSISTOR	MAIN CLOCK	

BLOCK NO. 02

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	Q9002	2SC2668(O)	TRANSISTOR	MAIN CLOCK	
	Q9003	2SC2785	TRANSISTOR		
	Q9004	DTC144TSA-T	D.TR.I.M		
	Q9006	DTA114TS	D.TR.I.M		
	R 1	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R 2	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
	R 3	QRD167J-4R7	CARBON RESISTOR	4.7 5% 1/6W	
	R 7	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R 9	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 13	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R 18	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 20	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 28	QRD161J-512	CARBON RESISTOR	5.1K 5% 1/6W	
	R 30	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R 31	QRD161J-123	CARBON RESISTOR	12K 5% 1/6W	
	R 33	QRD161J-101	CARBON RESISTOR	100 5% 1/6W	
	R 34	QRD161J-183	CARBON RESISTOR	18K 5% 1/6W	
	R 35	QRD161J-183	CARBON RESISTOR	18K 5% 1/6W	
	R 37	QRD161J-560	CARBON RESISTOR	56 5% 1/6W	
	R 42	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
	R 44	QRD161J-101	CARBON RESISTOR	100 5% 1/6W	
	R 46	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 47	QRD161J-331	CARBON RESISTOE	330 5% 1/6W	
	R 48	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 52	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R 54	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 55	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 56	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
	R 57	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 59	QRD161J-102	CARBON RESISTOR	=B113	
	R 60	QRD161J-102	CARBON RESISTOR	=B114	
	R 61	QRD161J-102	CARBON RESISTOR	=B108	
	R 64	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R2501	QRD161J-271	CARBON RESISTOR	270 5% 1/6W	
	R2502	QRD161J-391	CARBON RESISTOR	390 5% 1/6W	
	R2504	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R2505	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R2506	QRD161J-122	CARBON RESISTOR	1.2K 5% 1/6W	
	R2507	QRD161J-152	CARBON RESISTOR	1.5K 5% 1/6W	
	R2508	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R2509	QRD161J-272	CARBON RESISTOR	2.7K 5% 1/6W	
	R2510	QRD161J-392	CARBON RESISTOR	3.9K 5% 1/6W	
	R2511	QRD167J-562	CARBON RESISTOR	5.6K 5% 1/6W	
	R2512	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R2513	QRD161J-183	CARBON RESISTOR	18K 5% 1/6W	
	R2514	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
	R2515	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R2516	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R2517	QRD161J-122	CARBON RESISTOR	1.2K 5% 1/6W	
	R2518	QRD161J-152	CARBON RESISTOR	1.5K 5% 1/6W	
	R2519	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R2520	QRD161J-272	CARBON RESISTOR	2.7K 5% 1/6W	
	R2521	QRD161J-392	CARBON RESISTOR	3.9K 5% 1/6W	
	R2522	QRD167J-562	CARBON RESISTOR	5.6K 5% 1/6W	
	R2523	QRD161J-561	CARBON RESISTOR	560 5% 1/6W	

BLOCK NO. 02

A	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R2524	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R2525	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R2526	QRD161J-122	CARBON RESISTOR	1.2K 5% 1/6W	
	R2527	QRD161J-152	CARBON RESISTOR	1.5K 5% 1/6W	
	R2528	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R2529	QRD161J-272	CARBON RESISTOR	2.7K 5% 1/6W	
	R9001	QRD161J-681	CARBON RESISTOR	680 5% 1/6W	
	R9002	QRD161J-681	CARBON RESISTOR	680 5% 1/6W	
	R9003	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R9004	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R9005	QRD167J-682	CARBON RESISTOR	6.8K 5% 1/6W	
	R9007	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R9008	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R9009	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R9010	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R9011	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R9012	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R9013	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R9014	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R9015	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R9016	QRD161J-224	CARBON RESISTOR	220K 5% 1/6W	
	R9017	QRD161J-822	CARBON RESISTOR	8.2K 5% 1/6W	
	R9018	QRD161J-822	CARBON RESISTOR	8.2K 5% 1/6W	
	R9019	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R9021	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R9022	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R9023	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R9024	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R9025	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R9026	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R9027	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R9028	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R9029	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R9030	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R9031	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R9032	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R9034	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R9035	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R9036	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R9038	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R9039	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R9040	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R9041	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R9042	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R9044	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R9046	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R9047	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R9048	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R9049	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R9050	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R9051	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R9052	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R9053	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R9054	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R9055	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	

BLOCK NO. 02

A	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R9056	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R9057	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R9058	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R9059	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R9060	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R9061	QRD161J-104	CARBON RESISTOR	LCD BIAS	
	R9062	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R9063	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R9066	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
	R9067	QRD161J-333	CARBON RESISTOR	33K 5% 1/6W	
	R9068	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R9071	QRD161J-303Y	CARBON RESISTOR	30K 5% 1/6W	
	R9072	QRD161J-823	CARBON RESISTOR	82K 5% 1/6W	
	R9073	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R9074	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R9079	QRD161J-243	CARBON RESISTOR	24K 5% 1/6W	
	R9080	QRD161J-243	CARBON RESISTOR	24K 5% 1/6W	
	R9081	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R9082	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R9083	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R9084	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R9085	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R9086	QRD161J-394	CARBON RESISTOR	390K 5% 1/6W	
	R9087	QRD161J-393	CARBON RESISTOR	39K 5% 1/6W	
	S2501	QSQ4H11-V10Z	TACT SWITCH		
	S2502	QSQ4H11-V10Z	TACT SWITCH		
	S2503	QSQ4H11-V10Z	TACT SWITCH		
	S2504	QSQ4H11-V10Z	TACT SWITCH		
	S2505	QSQ4H11-V10Z	TACT SWITCH		
	S2506	QSQ4H11-V10Z	TACT SWITCH		
	S2507	QSQ4H11-V10Z	TACT SWITCH		
	S2508	QSQ4H11-V10Z	TACT SWITCH		
	S2509	QSQ4H11-V10Z	TACT SWITCH		
	S2510	QSQ4H11-V10Z	TACT SWITCH		
	S2511	QSQ4H11-V10Z	TACT SWITCH		
	S2512	QSQ4H11-V10Z	TACT SWITCH		
	S2513	QSQ4H11-V10Z	TACT SWITCH		
	S2514	QSQ4H11-V10Z	TACT SWITCH		
	S2515	QSQ4H11-V10Z	TACT SWITCH		
	S2516	QSQ4H11-V10Z	TACT SWITCH		
	S2517	QSQ4H11-V10Z	TACT SWITCH		
	S2518	QSQ4H11-V10Z	TACT SWITCH		
	S2519	QSQ4H11-V10Z	TACT SWITCH		
	S2520	QSQ4H11-V10Z	TACT SWITCH		
	S2521	QSQ4H11-V10Z	TACT SWITCH		
	S2522	QSQ4H11-V10Z	TACT SWITCH		
	S2523	QSQ4H11-V10Z	TACT SWITCH		
	S2524	QSQ4H11-V10Z	TACT SWITCH		
	S2525	QSQ4H11-V10Z	TACT SWITCH		
	S2526	QSQ4H11-V10Z	TACT SWITCH		
	S2527	QSQ4H11-V10Z	TACT SWITCH		
	T 2	VQT7A21-112	IFT		
	TC 2	QAT3722-200ZM	T.CAPACITOR	MW RF	
	TP 1	VMZ0015-002	POST PIN	TO ROD ANT	
	TP 2	VMZ0015-002	POST PIN	GND	

BLOCK NO. 02

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	X 1	VCX5044-001	CRYSTAL		
	X9001	VCX5000-002	CRYSTAL	SUB CLOCK	
	X9002	M2Z4.19	CERA LOCK	MAIN CLOCK	

■ Head amplifier & Mechanism Control Board

BLOCK NO. 03

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	C 101	NCS21HJ-561AY	C CAPACITOR	560PF 5% 50V	
	C 102	NCS21HJ-331AY	C CAPACITOR	330PF 5% 50V	
	C 103	NCS21HJ-561AY	C CAPACITOR	560PF 5% 50V	
	C 104	NCS21HJ-221AY	C CAPACITOR	220PF 5% 50V	
	C 105	QEK40JM-227	E.CAPACITOR	220MF 20% 6.3V	
	C 106	NCB21HK-333AY	C CAPACITOR	.033MF 10% 50V	
	C 107	QEK41EM-475	E.CAPACITOR	4.7MF 20% 25V	
	C 108	NCB21HK-393AY	C CAPACITOR	.039MF 10% 50V	
	C 109	NCB21HK-563AY	C CAPACITOR	.056MF 10% 50V	
	C 110	NCS21HJ-221AY	C CAPACITOR	220PF 5% 50V	
	C 111	QEK41HM-104	E.CAPACITOR	.10MF 20% 50V	
	C 112	QEK41CM-106	E.CAPACITOR	10MF 20% 16V	
	C 113	NCB21HK-332AY	C CAPACITOR	3300PF 10% 50V	
	C 114	QEK41EM-475	E.CAPACITOR	4.7MF 20% 25V	
	C 115	NCB21HK-153AY	C CAPACITOR	.015MF 10% 50V	
	C 116	NCB21HK-822AY	C CAPACITOR	8200PF 10% 50V	
	C 117	NCB21HK-223AY	C CAPACITOR	.022MF 10% 50V	
	C 118	NCB21HK-103AY	C CAPACITOR	.010MF 10% 50V	
	C 119	NCB21HK-563AY	C CAPACITOR	.056MF 10% 50V	
	C 201	NCS21HJ-561AY	C CAPACITOR	560PF 5% 50V	
	C 202	NCS21HJ-331AY	C CAPACITOR	330PF 5% 50V	
	C 203	NCS21HJ-561AY	C CAPACITOR	560PF 5% 50V	
	C 204	NCS21HJ-221AY	C CAPACITOR	220PF 5% 50V	
	C 205	QEK40JM-227	E.CAPACITOR	220MF 20% 6.3V	
	C 206	NCB21HK-333AY	C CAPACITOR	.033MF 10% 50V	
	C 207	QEK41EM-475	E.CAPACITOR	4.7MF 20% 25V	
	C 208	NCB21HK-393AY	C CAPACITOR	.039MF 10% 50V	
	C 209	NCB21HK-563AY	C CAPACITOR	.056MF 10% 50V	
	C 210	NCS21HJ-221AY	C CAPACITOR	220PF 5% 50V	
	C 211	QEK41HM-104	E.CAPACITOR	.10MF 20% 50V	
	C 212	QEK41CM-106	E.CAPACITOR	10MF 20% 16V	
	C 213	NCB21HK-332AY	C CAPACITOR	3300PF 10% 50V	
	C 214	QEK41EM-475	E.CAPACITOR	4.7MF 20% 25V	
	C 215	NCB21HK-153AY	C CAPACITOR	.015MF 10% 50V	
	C 216	NCB21HK-822AY	C CAPACITOR	8200PF 10% 50V	
	C 217	NCB21HK-223AY	C CAPACITOR	.022MF 10% 50V	
	C 218	NCB21HK-103AY	C CAPACITOR	.010MF 10% 50V	
	C 219	NCB21HK-563AY	C CAPACITOR	.056MF 10% 50V	
	C 301	QEK41CM-106	E.CAPACITOR	10MF 20% 16V	
	C 302	QEK41CM-476	E.CAPACITOR	47MF 20% 16V	
	C 303	QEK41CM-226	E.CAPACITOR	22MF 20% 16V	
	C 304	QEK41EM-475	E.CAPACITOR	4.7MF 20% 25V	
	C 305	NCB21HK-393AY	C CAPACITOR	.039MF 10% 50V	
	C 306	QEK40JM-227	E.CAPACITOR	220MF 20% 6.3V	
	C 308	NCB21HK-562AY	C CAPACITOR	5600PF 10% 50V	
	C 309	NCB21HK-562AY	C CAPACITOR	5600PF 10% 50V	
	C 310	NCB21HK-223AY	C CAPACITOR	.022MF 10% 50V	
	C 311	NCB21HK-682AY	C CAPACITOR	6800PF 10% 50V	
	C 313	QEKF1AM-107ZN	E.CAPACITOR	100MF 20% 10V	
	C 314	QCZ0205-155	ML.C.CAPACITOR	1.5MF	
	C 315	QCZ0205-155	ML.C.CAPACITOR	1.5MF	
	C 316	QFG32AJ-103ZN	PP CAPACITOR	.010MF 5% 100V	
	C 318	NCB21HK-103AY	C CAPACITOR	.010MF 10% 50V	
	C 319	QFG32AJ-821ZN	TF CAPACITOR	820PF 5% 100V	
	C 321	NCB21HK-103AY	C CAPACITOR	.010MF 10% 50V	

BLOCK NO. 03

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	C 322	QFG32AJ-152ZN	PP.CAPACITOR	1500PF 5% 100V	
	C 327	QEK41CM-476	E.CAPACITOR	47MF 20% 16V	
	C 328	NCS21HJ-151AY	C CAPACITOR	150PF 5% 50V	
	C 329	NCS21HJ-151AY	C CAPACITOR	150PF 5% 50V	
	C 330	NCS21HJ-151AY	C CAPACITOR	150PF 5% 50V	
	C 332	NCS21HJ-151AY	C CAPACITOR	150PF 5% 50V	
	C 335	NCB21HK-103AY	C CAPACITOR	.010MF 10% 50V	
	C 336	NCB21HK-103AY	C CAPACITOR	.010MF 10% 50V	
	C 337	NCB21HK-103AY	C CAPACITOR	.010MF 10% 50V	
	C 338	NCB21HK-103AY	C CAPACITOR	.010MF 10% 50V	
	C 339	QEK41CM-476	E.CAPACITOR	47MF 20% 16V	
	C 340	NCB21HK-103AY	C CAPACITOR	.010MF 10% 50V	
	C 341	QEKF1AM-107ZN	E.CAPACITOR	100MF 20% 10V	
	C 342	QEK41EM-475	E.CAPACITOR	4.7MF 20% 25V	
	C 343	QET41CM-106	E.CAPACITOR	10MF 20% 16V	
	CN301	VMC0163-R06	CONNECTOR		
	CN302	VMC0163-R06	CONNECTOR		
	CN303	QGB2011M1-10	PWB CONECTOR		
	CN304	QGB2011M1-10	PWB CONECTOR		
	CN305	VMC0163-R10	CONNECTOR		
	CN306	VMC0163-R11	CONNECTOR		
	D 301	MA704A	S.K.DIODE		
	D 302	MA152WK-TX	SI DIODE		
	D 307	MA3051(M)	ZENER DIODE		
	D 308	MA3051(M)	ZENER DIODE		
	D 309	MA704A	S.K.DIODE		
	IC301	BA3126N	IC		
	IC302	AN7345K	IC		
	IC303	BU4094BCF-X	IC		
	IC304	BU4094BCF-X	IC		
	L 301	QQR0620-001	OSC COIL(BIAS)		
	L 303	VQP0033-100Z	INDUCTOR		
	Q 101	FA1A4ZX	TRANSISTOR		
	Q 102	FA1L4Z	TRANSISTOR		
	Q 103	FA1L4M	TRANSISTOR		
	Q 104	FA1A4ZX	TRANSISTOR		
	Q 105	2SC2001(L,K)	TRANSISTOR		
	Q 201	FA1A4ZX	TRANSISTOR		
	Q 202	FA1L4Z	TRANSISTOR		
	Q 203	FA1L4M	TRANSISTOR		
	Q 204	FA1A4ZX	TRANSISTOR		
	Q 205	2SC2001(L,K)	TRANSISTOR		
	Q 301	FA1L4Z	TRANSISTOR		
	Q 302	2SC2001(L,K)	TRANSISTOR		
	Q 303	2SC2001(L,K)	TRANSISTOR		
	Q 304	2SC2001(L,K)	TRANSISTOR		
	Q 305	2SC2001(L,K)	TRANSISTOR		
	Q 306	2SC1623(6)	TRANSISTOR		
	Q 307	2SC1623(6)	TRANSISTOR		
	Q 308	2SC1623(6)	TRANSISTOR		
	Q 309	2SC1623(6)	TRANSISTOR		
	Q 312	2SB562(C)	TRANSISTOR		
	Q 313	2SC1623(6)	TRANSISTOR		
	Q 314	2SB562(C)	TRANSISTOR		
	Q 315	2SC1623(6)	TRANSISTOR		

BLOCK NO. 03

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	Q 316	2SA952(L,K)	TRANSISTOR		
	Q 317	FA1F4MX	CHIP D.TRANSITR		
	Q 318	FN1L4M	TRANSISTOR		
	Q 319	FA1L4M	TRANSISTOR		
	Q 320	FA1L4M	TRANSISTOR		
	Q 321	FA1L4M	TRANSISTOR		
	Q 322	FA1L4M	TRANSISTOR		
	Q 323	2SC1623(6)	TRANSISTOR		
	R 102	NRSA02J-102NY	MG RESISTOR	1.0K 5% 1/10W	
	R 103	NRSA02J-183NY	MG RESISTOR	18K 5% 1/10W	
	R 105	NRSA02J-220NY	MG RESISTOR	22 5% 1/10W	
	R 106	NRSA02J-392NY	MG RESISTOR	3.9K 5% 1/10W	
	R 107	NRSA02J-123NY	MG RESISTOR	12K 5% 1/10W	
	R 108	NRSA02J-222NY	MG RESISTOR	2.2K 5% 1/10W	
	R 109	NRSA02J-152NY	MG RESISTOR	1.5K 5% 1/10W	
	R 110	NRSA02J-152NY	MG RESISTOR	1.5K 5% 1/10W	
	R 111	NRSA02J-562NY	MG RESISTOR	5.6K 5% 1/10W	
	R 112	NRSA02J-122NY	MG RESISTOR	1.2K 5% 1/10W	
	R 113	NRSA02J-271NY	MG RESISTOR	270 5% 1/10W	
	R 114	NRSA02J-391NY	MG RESISTOR	390 5% 1/10W	
	R 115	NRSA02J-332NY	MG RESISTOR	3.3K 5% 1/10W	
	R 116	NRSA02J-182NY	MG RESISTOR	1.8K 5% 1/10W	
	R 117	NRSA02J-332NY	MG RESISTOR	3.3K 5% 1/10W	
	R 118	NRSA02J-152NY	MG RESISTOR	1.5K 5% 1/10W	
	R 119	NRSA02J-203NY	MG RESISTOR	20K 5% 1/10W	
	R 120	NRSA02J-102NY	MG RESISTOR	1.0K 5% 1/10W	
	R 121	NRSA02J-122NY	MG RESISTOR	1.2K 5% 1/10W	
	R 202	NRSA02J-102NY	MG RESISTOR	1.0K 5% 1/10W	
	R 203	NRSA02J-183NY	MG RESISTOR	18K 5% 1/10W	
	R 205	NRSA02J-220NY	MG RESISTOR	22 5% 1/10W	
	R 206	NRSA02J-392NY	MG RESISTOR	3.9K 5% 1/10W	
	R 207	NRSA02J-123NY	MG RESISTOR	12K 5% 1/10W	
	R 208	NRSA02J-222NY	MG RESISTOR	2.2K 5% 1/10W	
	R 209	NRSA02J-152NY	MG RESISTOR	1.5K 5% 1/10W	
	R 210	NRSA02J-152NY	MG RESISTOR	1.5K 5% 1/10W	
	R 211	NRSA02J-562NY	MG RESISTOR	5.6K 5% 1/10W	
	R 212	NRSA02J-122NY	MG RESISTOR	1.2K 5% 1/10W	
	R 213	NRSA02J-271NY	MG RESISTOR	270 5% 1/10W	
	R 214	NRSA02J-391NY	MG RESISTOR	390 5% 1/10W	
	R 215	NRSA02J-332NY	MG RESISTOR	3.3K 5% 1/10W	
	R 216	NRSA02J-182NY	MG RESISTOR	1.8K 5% 1/10W	
	R 217	NRSA02J-332NY	MG RESISTOR	3.3K 5% 1/10W	
	R 218	NRSA02J-152NY	MG RESISTOR	1.5K 5% 1/10W	
	R 219	NRSA02J-203NY	MG RESISTOR	20K 5% 1/10W	
	R 220	NRSA02J-102NY	MG RESISTOR	1.0K 5% 1/10W	
	R 221	NRSA02J-122NY	MG RESISTOR	1.2K 5% 1/10W	
	R 301	NRS181J-221NY	MG RESISTOR	220 5% 1/8W	
	R 302	NRS181J-101NY	MG RESISTOR	100 5% 1/8W	
	R 304	NRSA02J-393NY	MG RESISTOR	39K 5% 1/10W	
	R 305	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W	
	R 306	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W	
	R 307	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W	
	R 308	NRSA02J-152NY	MG RESISTOR	1.5K 5% 1/10W	
	R 309	NRSA02J-152NY	MG RESISTOR	1.5K 5% 1/10W	
	R 310	NRS181J-820NY	MG RESISTOR	82 5% 1/8W	

BLOCK NO. 03

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R 311	NRS181J-820NY	MG RESISTOR	82 5% 1/8W	
	R 313	NRSA02J-3R3NYM	RESISTOR	3.3 5% 1/10W	
	R 314	NRSA02J-223NY	MG RESISTOR	22K 5% 1/10W	
	R 315	NRSA02J-100NY	MG RESISTOR	10 5% 1/10W	
	R 316	NRSA02J-223NY	MG RESISTOR	22K 5% 1/10W	
	R 317	NRSA02J-100NY	MG RESISTOR	10 5% 1/10W	
	R 318	NRSA02J-123NY	MG RESISTOR	12K 5% 1/10W	
	R 319	NRSA02J-152NY	MG RESISTOR	1.5K 5% 1/10W	
	R 321	NRSA02J-123NY	MG RESISTOR	12K 5% 1/10W	
	R 322	NRSA02J-152NY	MG RESISTOR	1.5K 5% 1/10W	
	R 327	NRSA02J-474NY	MG RESISTOR	470K 5% 1/10W	
	R 328	NRSA02J-222NY	MG RESISTOR	2.2K 5% 1/10W	
	R 329	NRSA02J-222NY	MG RESISTOR	2.2K 5% 1/10W	
	R 330	NRSA02J-0RONY	MG RESISTOR	5% 1/10W	
	R 335	NRSA02J-222NY	MG RESISTOR	2.2K 5% 1/10W	
	R 336	NRSA02J-392NY	MG RESISTOR	3.9K 5% 1/10W	
	R 338	NRSA02J-222NY	MG RESISTOR	2.2K 5% 1/10W	
	R 339	NRSA02J-222NY	MG RESISTOR	2.2K 5% 1/10W	
	R 341	NRSA02J-222NY	MG RESISTOR	2.2K 5% 1/10W	
	R 343	NRSA02J-0RONY	MG RESISTOR	5% 1/10W	
	R 345	NRSA02J-222NY	MG RESISTOR	2.2K 5% 1/10W	
	R 346	NRSA02J-0RONY	MG RESISTOR	5% 1/10W	
	R 347	NRSA02J-392NY	MG RESISTOR	3.9K 5% 1/10W	
	R 348	NRSA02J-222NY	MG RESISTOR	2.2K 5% 1/10W	
	R 350	NRSA02J-472NY	MG RESISTOR	4.7K 5% 1/10W	
	R 351	NRSA02J-151NY	MG RESISTOR	150 5% 1/10W	
	R 353	NRSA02J-472NY	MG RESISTOR	4.7K 5% 1/10W	
	R 354	NRSA02J-151NY	MG RESISTOR	150 5% 1/10W	
	R 355	NRSA02J-332NY	MG RESISTOR	3.3K 5% 1/10W	
	R 356	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W	
	R 357	NRSA02J-103NY	MG RESISTOR	10K 5% 1/10W	
	R 358	NRSA02J-123NY	MG RESISTOR	12K 5% 1/10W	
	R 359	NRSA02J-123NY	MG RESISTOR	12K 5% 1/10W	
	R 360	NRSA02J-433NYT	RESISTOR	43K 5% 1/10W	
	R 361	NRSA02J-183NY	MG RESISTOR	18K 5% 1/10W	
	R 362	NRSA02J-123NY	MG RESISTOR	12K 5% 1/10W	
	R 363	NRSA02J-183NY	MG RESISTOR	18K 5% 1/10W	
	R 364	NRSA02J-433NYT	RESISTOR	43K 5% 1/10W	
	R 365	NRSA02J-203NY	MG RESISTOR	20K 5% 1/10W	
	R 366	NRSA02J-123NY	MG RESISTOR	12K 5% 1/10W	
	R 367	NRSA02J-102NY	MG RESISTOR	1.0K 5% 1/10W	
	R 368	NRSA02J-391NY	MG RESISTOR	390 5% 1/10W	
	R 369	NRSA02J-391NY	MG RESISTOR	390 5% 1/10W	
	R 371	NRS181J-222NY	MG RESISTOR	2.2K 5% 1/8W	
	R 374	NRSA02J-912NY	RESISTOR	9.1K 5% 1/10W	
	R 375	NRSA02J-683NY	MG RESISTOR	68K 5% 1/10W	
	R 376	NRS181J-6R8NY	MG RESISTOR	6.8 5% 1/8W	
	VR101	QVPA603-503AZ	SEMI.V.RESISTOR		
	VR201	QVPA603-503AZ	SEMI.V.RESISTOR		
	VR301	QVPA603-103M	SEMI.V.RESISTOR		

■ Reel Pulse Board

BLOCK NO. 04

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	CN 1	EMV7159-010	10P PLUG ASSY		
	CN 1	EMV7159-010	10P PLUG ASSY		
	D 1	1SR139-100	SI DIODE		
	D 1	1SR139-100	SI DIODE		
	IC 1	SG-105F3-BB/C	PHOTO SENSER		
	IC 1	SG-105F3-BB/C	PHOTO SENSER		
	P 1	VMZ0015-002	POST PIN		
	P 1	VMZ0015-002	POST PIN		
	SW 1	MXS00220MVL0	CASSETTE SWITCH	R.REC	
	SW 2	MXS00220MVL0	CASSETTE SWITCH	TAPE	
	SW 2	MXS00220MVL0	CASSETTE SWITCH	TAPE	
	SW 4	MXS00220MVL0	CASSETTE SWITCH	70U	
	SW 4	MXS00220MVL0	CASSETTE SWITCH	70U	
	SW 5	MXS00220MVL0	CASSETTE SWITCH	F.REC	
	SW 6	QSEC001-E03	SWITCH		
	SW 6	QSEC001-E03	SWITCH		

■ CD Traverse Mechanism Control & Servo Board

BLOCK NO. 05

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	C 602	NCS21HJ-5R0	C.CAPACITOR	5.0PF 5% 50V	
	C 604	QEKF0JM-107Z	E CAPACITOR	100MF 20% 6.3V	
	C 605	QEK41CM-106	E.CAPACITOR	10MF 20% 16V	
	C 607	NCB21HK-822AY	C CAPACITOR	8200PF 10% 50V	
	C 608	QEK41HM-105	E.CAPACITOR	1.0MF 20% 50V	
	C 609	NCS21HJ-101AY	C CAPACITOR	100PF 5% 50V	
	C 610	NCB21HK-273AY	C CAPACITOR	.027MF 10% 50V	
	C 611	NCB21HK-472AY	C CAPACITOR	4700PF 10% 50V	
	C 612	NCB21HK-103AY	C CAPACITOR	.010MF 10% 50V	
	C 613	NCS21HJ-331AY	C CAPACITOR	330PF 5% 50V	
	C 614	NCB21HK-104	C CAPACITOR	.10MF 10% 25V	
	C 615	NCB21HK-223AY	C CAPACITOR	.022MF 10% 50V	
	C 616	NCB21HK-223AY	C CAPACITOR	.022MF 10% 50V	
	C 617	NCB21HK-223AY	C CAPACITOR	.022MF 10% 50V	
	C 618	NCB21HK-223AY	C CAPACITOR	.022MF 10% 50V	
	C 619	NCS21HJ-271AY	C CAPACITOR	270PF 5% 50V	
	C 620	NCS21HJ-151AY	C CAPACITOR	150PF 5% 50V	
	C 621	NCB21HK-102AY	C CAPACITOR	1000PF 10% 50V	
	C 622	NCB21HK-223AY	C CAPACITOR	.022MF 10% 50V	
	C 623	NCB21HK-104	C CAPACITOR	.10MF 10% 25V	
	C 628	NCB21HK-473AY	C CAPACITOR	.047MF 10% 25V	
	C 629	QEKF0JM-107Z	E CAPACITOR	100MF 20% 6.3V	
	C 631	QEKF1AM-107ZN	E.CAPACITOR	100MF 20% 10V	
	C 632	NCB21HK-473AY	C CAPACITOR	.047MF 10% 25V	
	C 633	NCB21HK-222AY	C CAPACITOR	2200PF 10% 50V	
	C 634	NCB21HK-222AY	C CAPACITOR	2200PF 10% 50V	
	C 651	NCS21HJ-120AY	C CAPACITOR	12PF 5% 50V	
	C 652	NCS21HJ-150AY	C.CAPACITOR	15PF 5% 50V	
	C 653	NCB21HK-223AY	C CAPACITOR	.022MF 10% 50V	
	C 654	NCS21HJ-6R0AY	C.CAPACITOR	6.0PF 5% 50V	
	C 655	NCB21HK-473AY	C CAPACITOR	.047MF 10% 25V	
	C 657	NCB21HK-223AY	C CAPACITOR	.022MF 10% 50V	
	C 658	QEKF0JM-107Z	E CAPACITOR	100MF 20% 6.3V	
	C 659	QEKF0JM-107Z	E CAPACITOR	100MF 20% 6.3V	
	C 661	NCS21HJ-471AY	C CAPACITOR	470PF 5% 50V	
	C 662	NCB21HK-223AY	C CAPACITOR	.022MF 10% 50V	
	C 663	NCB21HK-223AY	C CAPACITOR	.022MF 10% 50V	
	C 664	NCB21HK-223AY	C CAPACITOR	.022MF 10% 50V	
	C 665	NCB21HK-104	C CAPACITOR	.10MF 10% 25V	
	C 666	QEK40JM-227	E.CAPACITOR	220MF 20% 6.3V	
	C 671	NCB21HK-222AY	C CAPACITOR	2200PF 10% 50V	
	C 672	NCB21HK-222AY	C CAPACITOR	2200PF 10% 50V	
	C 673	QEK40JM-227	E.CAPACITOR	220MF 20% 6.3V	
	C 674	NCB21HK-223AY	C CAPACITOR	.022MF 10% 50V	
	C 675	NCB21HK-104	C CAPACITOR	.10MF 10% 25V	
	C 676	NCB21HK-104	C CAPACITOR	.10MF 10% 25V	
	C 681	QEK40JM-227	E.CAPACITOR	220MF 20% 6.3V	
	C 687	NCB21HK-104	C CAPACITOR	.10MF 10% 25V	
	C 688	NCB21HK-104	C CAPACITOR	.10MF 10% 25V	
	C 691	NCB21HK-103AY	C CAPACITOR	.010MF 10% 50V	
	C 692	NCB21HK-103AY	C CAPACITOR	.010MF 10% 50V	
	C 693	VCP0012-105Z	C.CAPACITOR		
	C 694	VCP0012-105Z	C.CAPACITOR		
	C 695	QEK41CM-106	E.CAPACITOR	10MF 20% 16V	
	CN601	VMC0332-023	CONNECTOR		

BLOCK NO. 05

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	CN604	VMC0040-003	CONNECTOR		
	CN605	EMV7171-111R	CONNECTOR		
	CN606	EMV7171-107R	CONNECTOR		
	D 670	MA152WA-TX	DIODE		
	D 671	MA152WA-TX	DIODE		
	IC601	AN8806SB	IC		
⚠	IC641	BA6897FPW	IC		
	IC651	MN35510	IC		
	IC681	MN150837J8R2	IC		
	IC691	LB1641	IC		
	IC692	LB1641	IC		
	L 691	VQP0033-100Z	INDUCTOR		
	L 692	VQP0033-100Z	INDUCTOR		
	PC691	SG-256	PHOTO INTERRUPT		
	Q 601	2SA1037K(R)	TRANSISTOR		
	Q 631	2SA952(L,K)	TRANSISTOR		
	R 601	NRSA02J-123NY	MG RESISTOR	12K 5% 1/10W	
	R 602	NRSA02J-102NYM	MG RESISTOR	1.0K 5% 1/10W	
	R 603	NRSA02J-125NYM	MG RESISTOR	1.2M 5% 1/10W	
	R 605	NRSA02J-274NY	MG RESISTOR	270K 5% 1/10W	
	R 606	NRSA02J-104NY	MG RESISTOR	100K 5% 1/10W	
	R 607	NRSA02J-223NY	MG RESISTOR	22K 5% 1/10W	
	R 608	NRSA02J-124NY	MG RESISTOR	120K 5% 1/10W	
	R 609	NRSA02J-393NY	RESISTOR	39K 5% 1/10W	
	R 610	NRSA02J-104NY	MG RESISTOR	100K 5% 1/10W	
	R 612	NRSA02J-822NY	MG RESISTOR	8.2K 5% 1/10W	
	R 613	NRSA02J-121NY	RESISTOR	120 5% 1/10W	
	R 614	NRSA02J-100NY	MG RESISTOR	10 5% 1/10W	
	R 615	NRSA02J-120NY	MG RESISTOR	12 5% 1/10W	
	R 616	NRSA02J-910NY	RESISTOR	91 5% 1/10W	
	R 617	NRSA02J-473NY	MG RESISTOR	47K 5% 1/10W	
	R 618	NRSA02J-473NY	MG RESISTOR	47K 5% 1/10W	
	R 619	NRSA02J-473NY	MG RESISTOR	47K 5% 1/10W	
	R 620	NRSA02J-473NY	MG RESISTOR	47K 5% 1/10W	
	R 621	NRSA02J-101NY	MG RESISTOR	100 5% 1/10W	
	R 622	NRSA02J-101NY	MG RESISTOR	100 5% 1/10W	
	R 623	NRSA02J-101NY	MG RESISTOR	100 5% 1/10W	
	R 624	NRSA02J-101NY	MG RESISTOR	100 5% 1/10W	
	R 625	NRSA02J-823NY	MG RESISTOR	82K 5% 1/10W	
	R 626	NRSA02J-823NY	MG RESISTOR	82K 5% 1/10W	
	R 631	NRSA02J-331NY	MG RESISTOR	330 5% 1/10W	
	R 633	NRSA02J-273NYM	MG RESISTOR	27K 5% 1/10W	
	R 641	NRSA02J-104NY	MG RESISTOR	100K 5% 1/10W	
	R 642	NRSA02J-682NY	MG RESISTOR	6.8K 5% 1/10W	
	R 643	NRSA02J-183NYM	MG RESISTOR	18K 5% 1/10W	
	R 644	NRSA02J-223NY	MG RESISTOR	22K 5% 1/10W	
	R 645	NRSA02J-223NY	MG RESISTOR	22K 5% 1/10W	
	R 646	NRSA02J-182NYM	MG RESISTOR	1.8K 5% 1/10W	
	R 647	NRSA02J-182NYM	MG RESISTOR	1.8K 5% 1/10W	
	R 648	NRSA02J-472NY	MG RESISTOR	4.7K 5% 1/10W	
	R 649	NRSA02J-822NY	MG RESISTOR	8.2K 5% 1/10W	
	R 651	NRSA02J-471NY	MG RESISTOR	470 5% 1/10W	
	R 652	NRSA02J-102NYM	MG RESISTOR	1.0K 5% 1/10W	
	R 653	NRSA02J-102NYM	MG RESISTOR	1.0K 5% 1/10W	
	R 654	NRSA02J-102NYM	MG RESISTOR	1.0K 5% 1/10W	

BLOCK NO. 05

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R 655	NRSA02J-471NYM	MG RESISTOR	470 5% 1/10W	
	R 656	NRSA02J-102NYM	MG RESISTOR	1.0K 5% 1/10W	
	R 657	NRSA02J-102NYM	MG RESISTOR	1.0K 5% 1/10W	
	R 658	NRSA02J-100NY	MG RESISTOR	10 5% 1/10W	
	R 659	NRSA02J-471NYM	MG RESISTOR	470 5% 1/10W	
	R 661	NRSA02J-683NY	MG RESISTOR	68K 5% 1/10W	
	R 663	NRSA02J-124NY	RESISTOR	120K 5% 1/10W	
	R 664	NRSA02J-471NYM	MG RESISTOR	470 5% 1/10W	
	R 665	NRSA02J-102NY	MG RESISTOR	1.0K 5% 1/10W	
	R 666	NRSA02J-472NY	MG RESISTOR	4.7K 5% 1/10W	
	R 667	NRSA02J-472NY	MG RESISTOR	4.7K 5% 1/10W	
	R 668	NRSA02J-472NY	MG RESISTOR	4.7K 5% 1/10W	
	R 669	NRSA02J-472NY	MG RESISTOR	4.7K 5% 1/10W	
	R 670	NRSA02J-470NY	MG RESISTOR	47 5% 1/10W	
	R 671	NRSA02J-102NYM	MG RESISTOR	1.0K 5% 1/10W	
	R 672	NRSA02J-102NYM	MG RESISTOR	1.0K 5% 1/10W	
	R 673	NRSA02J-100NY	MG RESISTOR	10 5% 1/10W	
	R 674	NRSA02J-102NYM	MG RESISTOR	1.0K 5% 1/10W	
	R 675	NRSA02J-104NY	MG RESISTOR	100K 5% 1/10W	
	R 676	NRSA02J-104NY	MG RESISTOR	100K 5% 1/10W	
	R 681	NRSA02J-223NY	MG RESISTOR	22K 5% 1/10W	
	R 682	NRSA02J-223NY	MG RESISTOR	22K 5% 1/10W	
	R 683	NRSA02J-223NY	MG RESISTOR	22K 5% 1/10W	
	R 684	NRSA02J-223NY	MG RESISTOR	22K 5% 1/10W	
	R 685	NRSA02J-223NY	MG RESISTOR	22K 5% 1/10W	
	R 686	NRSA02J-223NY	MG RESISTOR	22K 5% 1/10W	
	R 687	NRSA02J-223NY	MG RESISTOR	22K 5% 1/10W	
	R 688	NRSA02J-102NY	MG RESISTOR	1.0K 5% 1/10W	
	R 691	NRSA02J-223NY	MG RESISTOR	22K 5% 1/10W	
	R 692	NRSA02J-223NY	MG RESISTOR	22K 5% 1/10W	
	R 693	NRSA02J-223NY	MG RESISTOR	22K 5% 1/10W	
	R 694	NRSA02J-223NY	MG RESISTOR	22K 5% 1/10W	
	R 695	NRSA02J-103NYM	MG RESISTOR	10K 5% 1/10W	
	R 696	NRSA02J-181NY	MG RESISTOR	180 5% 1/10W	
	S 691	QSW0449-001	SWITCH		
	S 692	QSW0449-001	SWITCH		
	S 693	ESS1200-002	SWITCH		
	X 651	VCX5016-934V	CRYSTAL		
	X 681	EFO-EC4004T4	CERA LOCK		
	Z 651	VYH7237-003	IC HOLDER		
	Z 681	VYH7237-001	IC HOLDER		

■ Feed Moter Board

BLOCK NO. 06

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	S 699	VSH1173-001	SWITCH		
	SW699	EMV7169-006R	CONNECTOR		

14.Packing

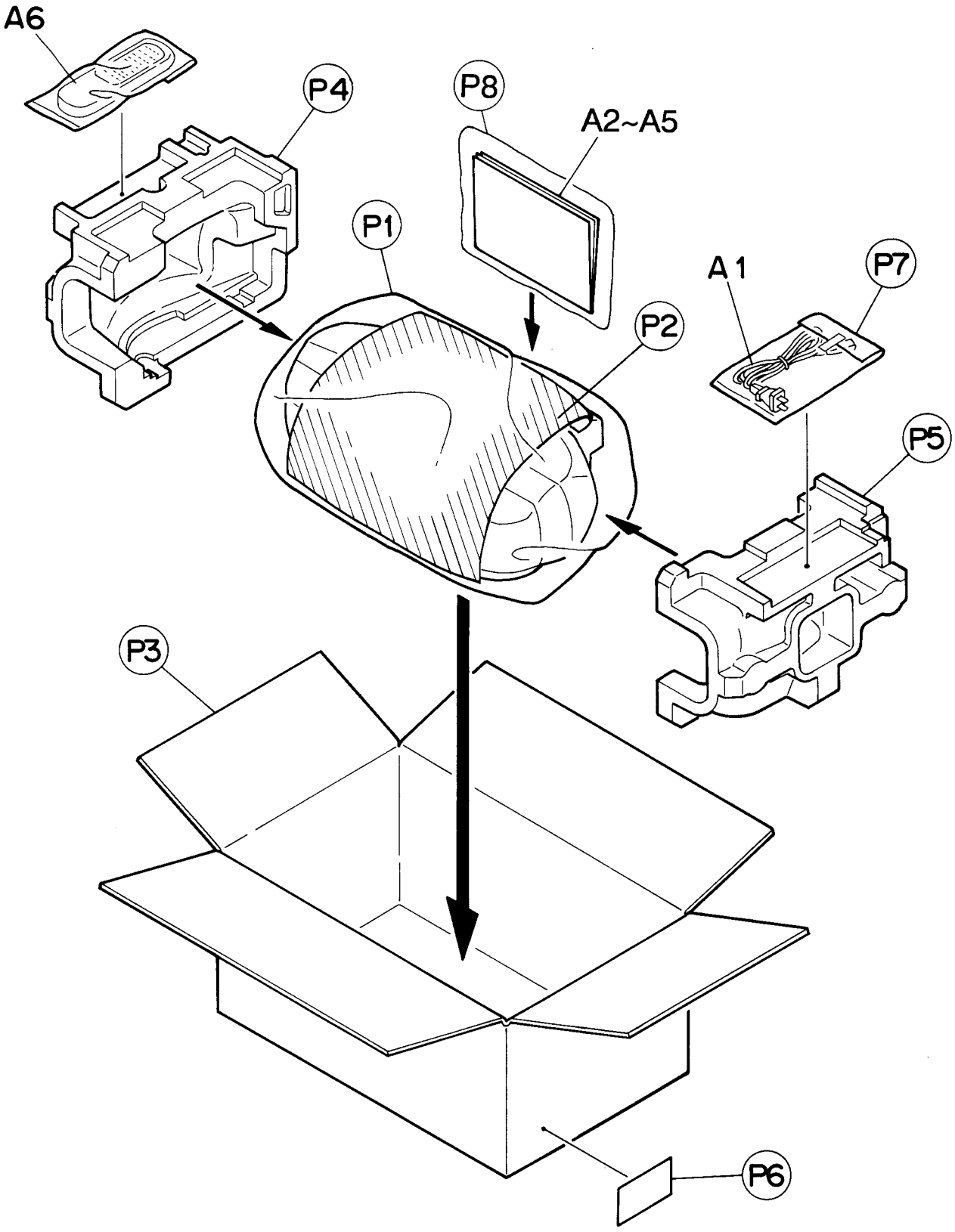


Fig.14-1

■ Packing Parts List

BLOCK NO. M4MM□□□

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	P 1	VPE3026-009	POLY BAG	FOR SET	1		
	P 2	VPK4002-011	PACKING SHEET		1		
	P 3	VPC5206-M102	CARTON		1		
	P 4	VPH1699-001	SIDE CUSHION		1		
	P 5	VPH1699-002	SIDE CUSHION		1		
	P 6	----------	CARTON LABEL		1		
	P 7	QPGA012-02505	POLY BAG	FOR POWER CORD	1		
	P 8	VPE3026-004	POLY BAG	FOR INSTRUCTION	1		

■ Accessories

BLOCK NO. M5MM□□□

⚠	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
⚠	A 1	QMP5520-183BS	POWER CORD		1	B	
⚠		QMP39F0-183	POWER CORD		1	E,EN,G	
	A 2	VNN5206-251M	INSTRUCTIONS		1	E,EN	
		VNN5206-261M	INSTRUCTIONS		1	E,EN,G	
		VNN5206-671M	INSTRUCTIONS		1	B	
	A 3	BT-20135	WARRANTY CARD		1	G	
		BT-54003-1	WARRANTY CARD		1	B	
	A 4	BT-20066A	SVC CENTER LIST		1	B	
	A 5	E43486-340B	SAFETY SHEET		1	B	
	A 6	VGR0060-201	REMOCON UNIT		1		
	A 7	R6PRPA-2STSA	BATTERY		2		